



**August 2015**

**Small Towns and the Army Corps of Engineers:  
The Evolution of a Region**

Ahh, a trip to the cottage in the summer. Relaxing on the beach. Taking a boat ride. Going fishing. It's a great tradition in many parts of the country, including in the Great Lakes state of Michigan.

But many of those areas teeming with vacation homes and cabins may have taken a lot of work by the Army Corps of Engineers (COE) to develop, allowing people to partake in activities and enjoy the natural beauty. Although vacation destinations were not the initial impetus for most projects the COE has worked on, the benefits, nonetheless, remain.

This can be confirmed by looking through some of Record Group 77, Records of the U.S. Corps of Engineers, at the National Archives in Chicago. Many regions of the country, particularly near bodies of water, need assistance to keep functioning. One town, Harbor Beach, can serve as a case study for the work that went into its development.

Located about 125 miles north of Detroit near the top of the thumb in the "mitten state," also known as Michigan, this small town on the shores of Lake Huron certainly has required the aid of the Corps of Engineers, particularly in its early development.

Long before trucks and airplanes, shipping was one of the most important forms of delivery of materials for industry and consumers. Creating a safe harbor for vessels between Port Huron and Saginaw Bay was a necessity. The 80 miles of coastline were rocky and dangerous, and boats could not risk getting stuck offshore, especially in the autumn and winter months when violent winds make for unsafe conditions. It was reported that in 1871 alone there were more than 30,000 trips along this route.

Knowing this stretch of water was not only very busy but also important for commerce, Congress authorized money for construction of a harbor between Port Huron and Alpena in the northern part of the lower peninsula, about 150 miles long. The Corps of Engineers, an agency under the auspices of the War Department, conducted a study of the shoreline testing how anchors held along the coastline. The potential areas for a man-made harbor were narrowed to

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**Page 9: Ash Trees Replaced at NARA at Chicago**

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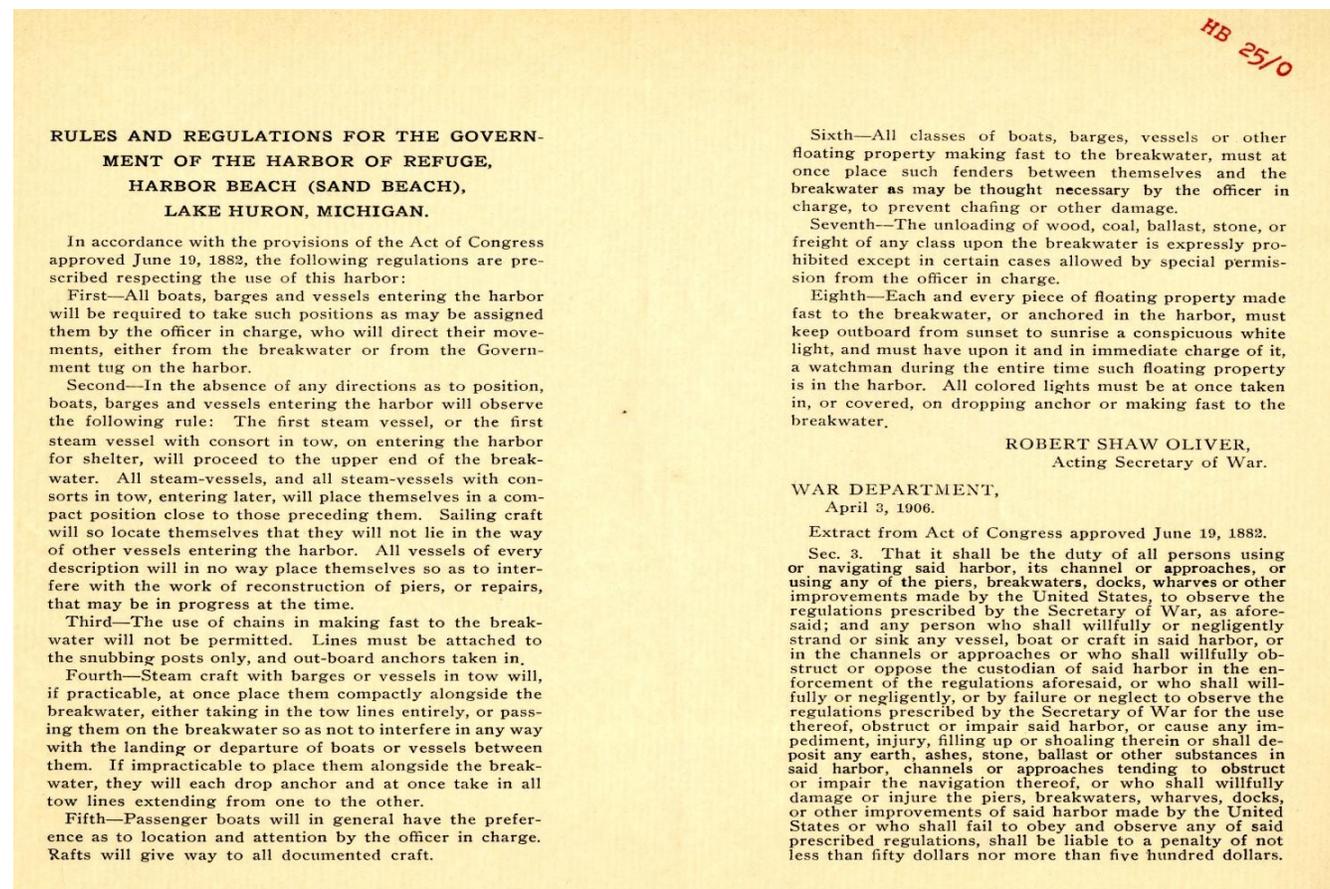
**NATIONAL  
ARCHIVES**

two, Port Hope and Sand Beach. The latter was chosen as it would require a shorter breakwater, the barrier that breaks the waves, which would reduce the expense.

Nevertheless, the estimate of the project was still \$1.5 million, a large sum in 1872 when the site was chosen. Fortunately for the region, Congress authorized the cost. Although there were few residents at the time, less than 700 in 1870, the ambitious project began; it was known as the “harbor of refuge” at Sand Beach.

Construction started in 1873, and it was executed in three sections: the west pier, the main pier, and the south pier. Although the project was not completed until 1885, vessels began using the harbor as shelter only a couple years after work began. This validated the necessity of such a place along the coastline. In fact, by 1877, the engineer in charge recommended there be a harbor master to help regulate the large number of vessels entering the area.

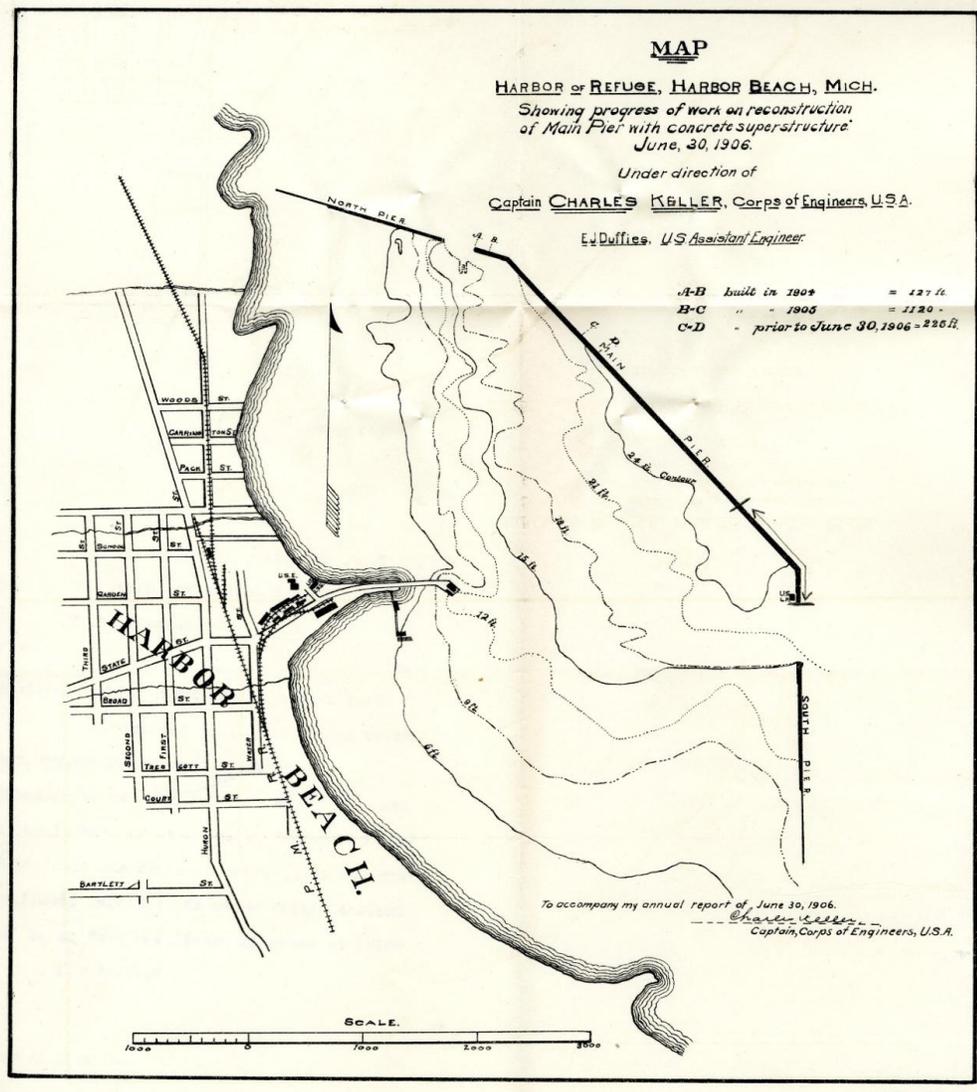
By 1882, there was a Congressional Act which itemized the “Rules and Regulations for the Government of the Harbor of Refuge” to make sure those using the piers, docks, wharves, and other improvements would utilize the area properly. These rules were reissued by Robert Shaw Oliver, Acting Secretary of War, in 1906.



*Document from the War Department listing the rules for use of the Harbor of Refuge, originally created in 1882*

In addition to the harbor, the Corps of Engineers also built the local lighthouse in the 1880s. First lit in 1885, the lighthouse was necessary to help guide the many vessels looking for refuge.

In 1904 the town was renamed Harbor Beach, and the following year another study was done by the Corps of Engineers to examine who was using the area and the reasons why or why not vessels docked there. It was determined the harbor entrance needed to be deepened to make it safer for vessels of varying sizes. The main entrance was dredged a couple feet deeper, to 23 feet, to allow for better anchorage. In addition, some of the wood structures were replaced with concrete. The estimated cost was nearly \$1 million, with annual maintenance fees projected at \$20,000.



*Map from June 1906 showing the progress of the main pier reconstruction*

In 1910, there was yet another survey conducted. The report provided detailed cost estimates on the work proposed, with alternate options suggested. The COE wanted to replace more of the wood structures with concrete. And similar to today, requests for proposals were advertised for contractors to submit bids. The lowest bid for this particular project was from Burk, Smith and Nelson. It won out to rebuild the superstructure on the north pier and the pierhead of the south pier.

The Corps of Engineers would periodically ask for other bids for different projects, and the COE would have to check references for those seeking the contracts, as evidenced by many documents in the files. Further, there is correspondence back and forth between the Corps and subcontractors on projects, such

as those with quarries whose rocks were needed for riprap, the embankments and foundations created from a massive amount of stones.

**WAR DEPARTMENT.**  
REQUEST FOR AUTHORITY TO ADVERTISE.

Office of United States Engineer,  
Detroit, Michigan,  
March 23, 1907., 190

Sir:

I respectfully request <sup>(1)</sup> special <sup>(2)</sup> ~~xxxxxx~~ written authority to advertise for Mich., building concrete superstructure on main pier at harbor of refuge, Harbor Beach, in accordance with law and regulations, in the "Free Press" of Detroit, Mich., the "Sentinel" of Milwaukee, Wis., and the "Express" of Buffalo, N. Y., six (6) insertions each; and the "Engineering Record" and "Engineering News" of New York City, and the "Marine Review" of Cleveland, Ohio, four (4) insertions each.

(Advertisement.)

U. S. Engineer Office, Detroit, Mich., ..... 1907. Sealed proposals for building concrete superstructure on main pier at harbor of refuge, Harbor Beach, Mich., will be received here until 3:00 P.M., ..... 1907, and then publicly opened. Information furnished on application. Charles Keller, Major, Engrs.

Estimated cost (of work, materials, or services called for under this advertisement), \$ 150,000. Advertisement to be given six insertions in daily and four insertions in weekly newspapers if time will permit.

Respectfully,  
In the absence and by direction of Major Keller,  
*Geo. B. Fairbairn,*  
Chief Clerk.

To the CHIEF CLERK,  
War Department, Washington, D. C.

(Through Brig. Gen. A. Mackenzie, Chief of Engineers, U. S. Army.)

(1) For dredging, installing plumbing, electric lighting, fuel, use of condensed ordnance, recruits, constructing quarters, sinking tubular wells, fresh vegetable, etc.  
(2) Office Chief of Engrs., Dept. of War, Fiscal year 1907; U. S. Engineer Office at ..... Fiscal year 1907; Office Chief Engrs., Dept. of War, Fiscal year 1907; Chief of Engineers, ..... Annual, Fiscal year 1907, etc.  
\*In case special authority is desired, a copy of the proposed advertisement should accompany the application.  
†If the advertisement is for the sale of condensed ordnance stores, strike out the word "cost" and the words in parentheses, and substitute "value of the condensed ordnance stores offered for sale."  
‡If unknown, state so.

W. D., STANDARD FORM 2.  
(Ed. 7-14-07-35,000.)

Comparative Estimates, North Entrance.

\*Plan A, Wooden Cribbs in substructure; footing blocks in superstructure.  
\*Plan B, Concrete substructure; and mass concrete in superstructure.  
\*Plan C, Wooden cribs in substructure; mass concrete in superstructure.

*Plan A		*Plan C	
Substructure.		Substructure.	
240000 Ft. B.M. Timber	60.00 14400.00	273000 Ft. B.M. Timber	60.00 16380.00
31200 Lbs. drift bolts	.04 1248.00	36000 Lbs. drift bolts	.04 1440.00
3000 sqft. leveling off	.10 300.00	9000 Sqft. leveling off	.10 900.00
	<u>\$18648.00</u>		<u>\$18720.00</u>
Superstructure.		Superstructure.	
1230 cu yds. mass concrete	8.00 10240.00	2271 Cu yds. mass Concrete	7.50 17032.50
576 " block "	8.00 6084.00	3000 Ft. B.M. oak fender	75.00 225.00
3000 Ft. B.M. oak fender	75.00 225.00	1800 yds. Burlap	.15 270.00
440 yds. Burlap	.15 66.00	6 Mooring Posts	25.00 150.00
6 Mooring Posts	25.00 150.00		<u>\$17877.50</u>
	<u>\$10765.00</u>		<u>\$6857.50</u>
Total	<u>\$33313.00</u>	Total	<u>\$6857.50</u>
Add 10%	<u>3331.30</u>	Add 10%	<u>685.75</u>
	<u>\$36644.30</u>		<u>\$7543.25</u>

*Plan B	
Substructure.	
72 Tons Steel in Forms	70.00 5040.00
2522 cu yds. concrete	6.50 16458.00
14000 Ft. B.M. Timber	20.00 280.00
1440 lbs 8d nails	.05 45.20
9000 sqft. leveling off	.10 900.00
	<u>\$22721.20</u>
Superstructure.	
1338 Cu yds. concrete	7.50 10035.00
3000 Ft. B.M. oak fender	75.00 225.00
700 yds. Burlap	.15 105.00
6 Mooring Posts	25.00 150.00
	<u>\$10515.00</u>
Total	<u>\$33236.20</u>
Add 10%	<u>3323.62</u>
	<u>\$36559.82</u>

TOTAL ESTIMATES.

	*Plan A	*Plan B	*Plan C
North Pier	90551.05	85725.28	85725.28
South Pier	106301.63	98875.88	98875.88
North Entrance	36644.30	36559.82	40037.25
	<u>\$233496.98</u>	<u>\$221160.98</u>	<u>\$224638.41</u>

Jan. 1910.

*Documents illustrating the need for the COE to advertise for bids on projects, and an example of the types of work that needed bids*

Part of the COE studies include not only the number of vessels that used the harbor of refuge, but also the number that were lost or damaged during significant weather events such as a storm in November 1913, which killed approximately 178 people. The Corps took into account the size and weight of the ships using the harbor to see if improvements could be made to lessen future damage. Appropriations for any work had to be approved by Congress.

Considering the magnitude of the harbor project, and the vastness of Lake Huron, the Corps of Engineers had to continually reassess the area. A 1915 study done by the district office in Detroit and submitted to the Chief of Engineers of the U.S. Army included a history of the harbor of refuge as well as information about the quantity and size of vessels in the area. The report says in 1914 an increasing amount of ships (128) were more than 500 feet in length, and there were 14 that were more than 600 feet. It also notes that "the number of small boats propelled by gasoline engines and used for freight and pleasure purposes has increased greatly."

1906 - 954	1909 - 827	1912 - 615
1907 - 887	1910 - 860	1913 - 515
1908 - 703	1911 - 693	1914 - 342
		1915 - 382

5. The number of vessels lost or damaged on Lake Huron during the severe storm of November 9-11, 1913, is indicated on the following table. During this storm the number of lives lost was 179.

Vessels lost or damaged on Lake Huron during storm of November 9-11, 1913.

Vessels lost.

Name of vessel.	Length: Feet.	Beam: Feet.	Net Tonnage	Gross Tonnage	Carrying capacity. Gross tons.
Charles S. Price	504	54	4301	6322	9,000
Isaac M. Scott	504	54	4840	6372	9,000
John A. McGean	432	52	3777	5100	7,500
Argus	416	50	3580	4707	7,000
Hydrus	416	50	3384	4713	7,000
James Carruthers			Canadian		9,500
Wexford			do		2,800
Regina			do		3,000

Vessels stranded, constructive total loss.

Name of vessel.	Length: Feet.	Beam: Feet.	Net Tonnage	Gross Tonnage	Carrying capacity. Gross tons.
H. M. Hanna, Jr.	480	54	4413	5905	8,500
Matoa	290.6	40.3	1836	2311	3,100

Vessels seriously damaged.

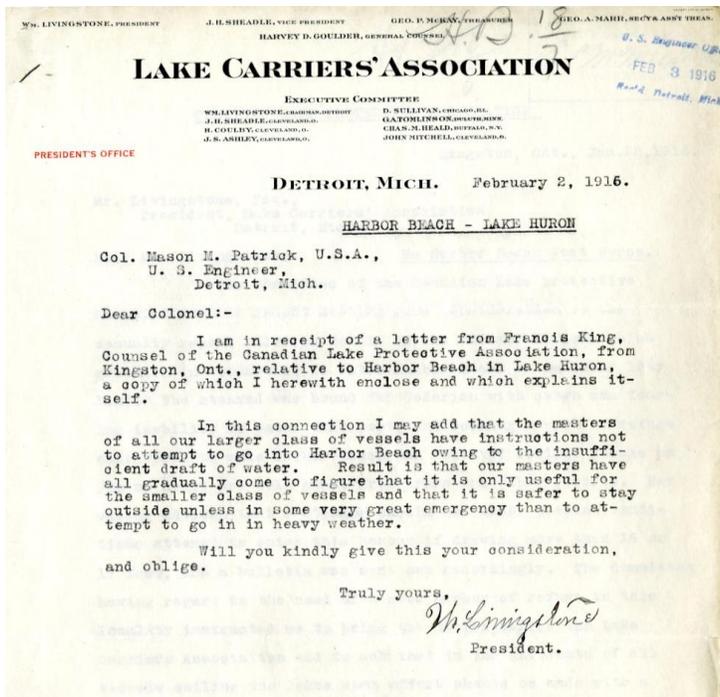
Name of vessel.	Length: Feet.	Beam: Feet.	Net Tonnage	Gross Tonnage	Carrying capacity. Gross tons.
Northern Queen	299.5	40.8	1885	2476	
H. B. Hawgood	414	50	3386	4655	6,200
Mathew Andrews	532	56	4497	7014	10,000
D. O. Mills	532	58.2	4850	6598	10,000
H. W. Smith	414	50	3415	4662	6,200

\* The steamer D. O. Mills went ashore in the vicinity of Harbor Beach.

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*A huge storm in November 1913 caused much damage including numerous casualties as seen in this document*

Since the use of Lake Huron and the harbor were vital to numerous factions, other parties weighed in on issues related to conditions in the area. For instance, in 1916, the Canadian Lake Protective Association warned its "larger class of vessels" not to attempt going into Harbor Beach because of the "insufficient draft of water." This would make it more difficult for big ships to dock. A large dredging and riprap project began shortly after.



*One of several letters to the Army Corps of Engineers about the concerns of larger vessels using the facilities at Harbor Beach*

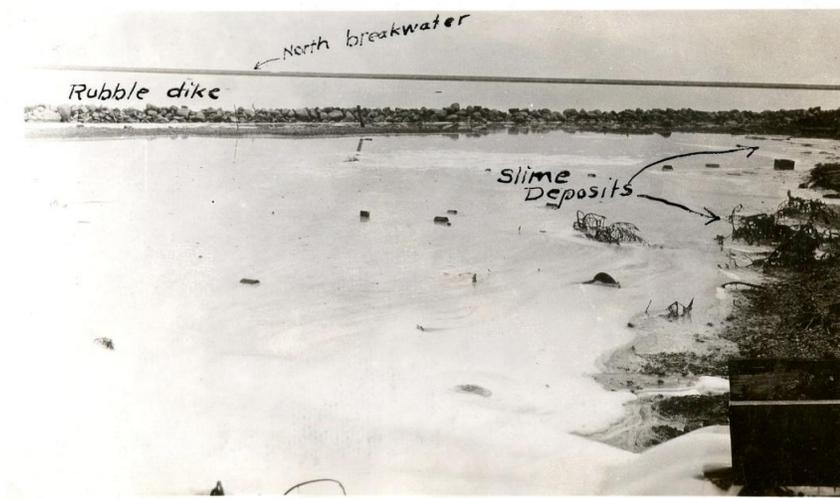
In addition to those concerned with shipping, the town itself was troubled with water conditions. In December 1922, the Harbor Beach Board of Commerce wrote to Louis Crampton, a member of the House of Representatives, about the increasingly unsanitary conditions of the harbor. "In fact the bathing beach that has been used by the Harbor Beach Resort Assn. for the last twenty-five years was practically useless during the latter part of the season of 1922."

The missive continues, discussing how a local business, the Huron Milling Company, had from 1899 through 1910 discharged its waste into the harbor, but then began a modified disposal of its waste products which helped lessen the debris. The letter also states that the city of Harbor Beach had discharged its "entire sewerage" into the harbor until 1916 when a sewer system with "septic tanks and filter beds" allowed for the more modern method of disposal which, too, helped improve water conditions.



*Caption on back reads "Settling basin, corn starch factory of Huron Milling Co." from November 1922*

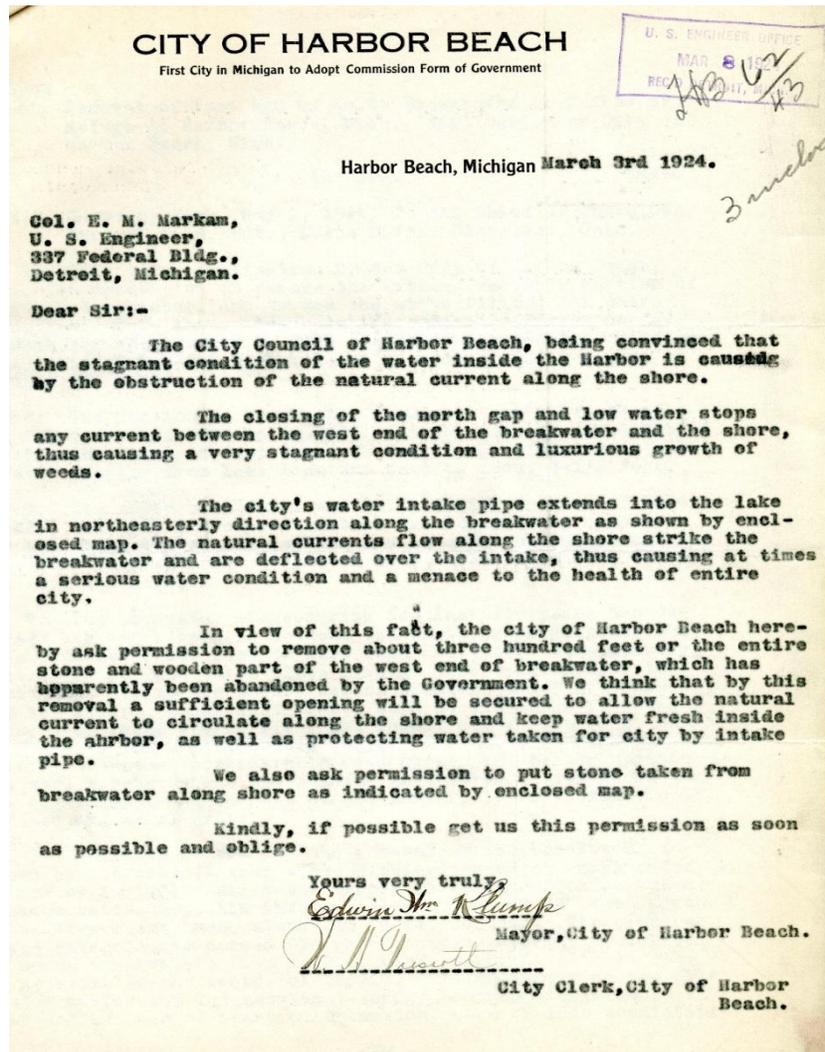
The purpose of the Board's letter was to let Congress know the main reason the water was not able to be used for recreation was because the north entrance of the breakwater was closed, which "restricted the circulation of fresh water through the Harbor and caused the Harbor water to become stagnant and encouraged the growth of weeds."



*November 1922 photo with caption on back reading "Discharge from settling basin, corn starch factory of Huron Milling Co. Effluent percolates thru rubble dike into harbor."*

The town's resort community wanted the situation rectified. The Harbor Beach Resort Association "was formed many years ago and is composed of people from many states who own their own cottages, representing an investment of several hundred thousand dollars and who have been coming here for twenty-five years, having been attracted in a great measure by the excellent boating and bathing privileges the Harbor afforded."

In hopes Congress would have some influence with the COE, the letter concludes, "Many of our people believe that the removal of the abandoned wooden breakwater at the North end would allow a flow of fresh water about equal in volume to that cut off by the closing of the North entrance into the Harbor and thereby remove the present conditions. I wish you would again lay this matter before the Engineers in charge for their consideration and further investigation."



Letter from 1924 to the Corps of Engineers office in Detroit from the Mayor and City Clerk of Harbor Beach asking if their town can undertake harbor renovations to help eliminate stagnant water

Discussion of this matter continued well into the 1920s, including holding public hearings. It is interesting to see the various considerations to what seems to be a relatively straightforward request.

*More correspondence about trying to get the north entrance to the harbor open, with old images to help demonstrate the issue (below)*

29 January, 1926.

Subject: Harbor of Refuge, Harbor Beach, Michigan.

To: The Chief of Engineers, U.S. Army, Washington, D.C.  
Through the Divn. Engr., Lakes Divn., Cleveland, O.

1. On 19 January, 1926, a public hearing was held at Harbor Beach, Michigan in connection with the application for reopening of the North entrance to the harbor. At the time of this visit, I was able to secure the two accompanying post cards, showing the manner in which the old type of lake carriers utilized this harbor. It was stated at the time, that over 120 vessels had taken refuge in the harbor at one time. The dates on which the photographs were taken could not be ascertained.

2. The numbers of vessels using the harbor during the calendar years 1920-1924 inclusive, is given at the bottom of page 1434, Annual Report of the Chief of Engineers, 1925. The average for the 5 years is 188 vessels.

3. While the harbor in question is being used to only a limited extent at the present time, it is believed that the photographs in question give visible proof of the great service rendered by this harbor in the past and that in spite of their poor quality, the photographs are of historical interest.

E. J. Dent,  
Lt. Col., Corps of Engineers.  
District Engineer.

2-Encls.



*Undated photos used by the Detroit COE office to illustrate the popularity of Harbor Beach for vessels. This was to support the request to reopen the northern entrance of the harbor.*



Although shipping became a less dominant form of commerce and the importance of the harbor waned as the 20<sup>th</sup> century rolled on, the town of Harbor Beach remains on the map. And the COE was a factor in keeping it there. The area certainly needed assistance to continue developing to make it more attractive to potential residents and more livable for those already rooted in the area.

There is one more tie this small town has with the federal government, although not with the Corps of Engineers. One of Harbor Beach's native sons is Frank Murphy. A World War I veteran, a mayor of Detroit, and a governor of Michigan in the 1930s, Murphy was a Supreme Court Justice, appointed by Franklin Roosevelt, from 1940-1949. He certainly was a small town boy who made good. He remains local, buried in Rock Falls Cemetery just south of town.

Even though Harbor Beach continues to be a small community, with only 1700 residents listed in the 2010 census, it still attracts many summer visitors who vacation in local campgrounds or who have cottages along the shore. They can thank, in part, the Army Corps of Engineers for making the area worth the trip.

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### **Ash Trees Replaced at NARA at Chicago**

In our July newsletter we highlighted the removal of two of our favorite ash trees killed by the Emerald Ash Borer. The General Services Administration (GSA) has begun to replace the lost trees with more resistant species like this Beech tree.





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