

WAR DEPARTMENT
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON 25, D. C.

ENGWR

24 June 1947

Honorable L. Mendel Rivers
House of Representatives
Washington, D. C.

Dear Mr. Rivers:

Further reference is made to your letter of 11 March 1947 and its accompanying inclosure from Mr. A. Murray Benson, President of the Retail Merchants Association of Folly Beach, South Carolina, concerning erosion of the beach at that locality. In his letter Mr. Benson expressed the opinion that the channel flowing through the gap at the outer end of the submerged south jetty at Charleston Harbor has eroded the end of Morris Island resulting in the washing of Folly Beach. By letter of 17 March 1947 you were advised that Colonel George W. Gillette, Division Engineer of the South Atlantic Division, was requested to submit a report thereon which has now been received based upon information furnished by Colonel John B. Hughes, the District Engineer at Charleston, South Carolina.

Folly Beach is a typical coastal barrier island about 6.8 miles long and from 0.2 to 0.6 mile wide situated about 6 miles southwest of the entrance to Charleston Harbor. Morris Island, which is 3.7 miles long and 1.9 miles wide and unpopulated, is located to the north of Folly Island from which it is separated by Lighthouse Inlet. An all-weather military road, 2.4 miles long, was constructed to the northern end of Folly Island in 1943 and the United States Coast Guard is presently operating a radio station at the northern end of the island and a radar station near the southern end of the island. Except for the two tracts of land now being utilized by the Coast Guard, the island is in private ownership.

The jetties at the entrance to Charleston Harbor were constructed in the period 1878-96. They were originally built to an average height of 8 to 10 feet above mean low water, except that the shoreward 5,000 feet of the north jetty and 6,000 feet of the south jetty were raised only a few feet above the bottom. These submerged sections were designed to permit the inflow of flood-tide currents without a corresponding escape of ebb-tide currents to assist in creating and maintaining by scour a channel through the bar. The design of these structures has proven very satisfactory as evidenced in the fact that the flood-tide current velocities between the jetties range from 1.5 to 2.5 feet

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per second, whereas the ebb-tide velocities are between 2.5 and over 4.0 feet per second thereby eliminating the necessity for maintenance dredging between the jetties the past 30 years.

Colonel Hughes reports that in 1865 there was a natural channel, which was designated as the main channel into Charleston Harbor, approximately 6,000 feet offshore of Morris Island running in a north-south direction. The outer end of the gap in the submerged south jetty is located at the crossing of this channel. Surveys made in 1945 indicate that shoaling has occurred in the south portion of the channel, and that the remaining channel to the north, in addition to slight shoaling, has changed its course to a northwesterly-southeasterly direction and away from the Morris Island shore.

The Corps of Engineers has heretofore made detailed studies of the effect of the jetties at the entrance to Charleston Harbor on the shorelines north and south of the harbor and the probable effect of closing the gap in the submerged portion of the south jetty. In connection with an authorized investigation of Charleston Harbor in the interest of navigation, the Shore Protection Board at the request of the Division Engineer of the South Atlantic Division made a thorough investigation of this matter. The findings of the Shore Protection Board are printed on page 41 of the Corps of Engineers' report contained in House Document 259, 76th Congress, copy of which is herewith for your convenient reference. The Shore Protection Board in its report dated 8 December 1938 concluded that the erosion in the vicinity of Charleston Harbor is not due to the jetties; that the erosion was taking place before the jetties were built, and has continued during and since their construction; that the jetties have intercepted the normal sand movement along the large bar which formerly existed along the front of the estuary from Sullivans Island to Folly Island; that erosion has greatly decreased the volume of the bar on the south side of the jetties; that the jetties have caused an accretion immediately north of the north jetty and have changed conditions along the front of Morris Island and to a negligible extent along Folly Island by diminishing the possible supply of sand; and that closing the water passage in the south jetty would probably result in a slight accretion in that vicinity without material change in shoreline conditions at Folly Island.

At the present time there is no authority available to the Corps of Engineers which would permit the expenditure of Federal funds to provide shore protection works for private property at Folly Island, Public Law 727, 79th Congress, approved 13 August 1946, declared the policy of the United States "to assist in the construction, but not

the maintenance, of works for the improvement and protection against erosion by waves and currents of the shores of the United States that are owned by States, municipalities, or other political subdivisions" upon the specific approval of Congress of a plan of protection after completion of studies provided for by law. As the property affected by erosion at Folly Beach is in private ownership, the Corps of Engineers is not in a position to participate in the construction or maintenance of any shore protection works to alleviate erosion resulting from natural causes. Colonel Hughes informs me that Federal property at this locality is in no immediate danger of being damaged from the present rate of erosion.

Pursuant to the authority of Section 2 of the River and Harbor Act approved 3 July 1930 the Corps of Engineers, in cooperation with the State of South Carolina, represented by the Sanitary and Drainage Commission of Charleston County, undertook studies and investigations with a view to devising effective means to protect the shoreline of Folly Island. The report thereon by the Chief of Engineers together with the report of the Beach Erosion Board was transmitted to Congress on 5 April 1935 and printed as House Document 156, 74th Congress, 1st Session, copy of which I am pleased to inclose for your information.

The Beach Erosion Board after a thorough study of conditions at Folly Beach evolved three plans of improvement to provide various degree of protection depending upon economic conditions. To date none of the plans have been adopted by local interests. Colonel Hughes reports that no condition has arisen since completion of the report which would alter the findings of the Beach Erosion Board.

You may be sure that the Corps of Engineers through the District Engineer at Charleston will gladly furnish local interests such additional technical assistance as is permitted under existing law in the construction of any protection works that may be undertaken by them along the shore of Folly Beach.

Sincerely yours,

2 Inclosures:

1. H. D. 259/76
2. H. D. 156/74

R. A. WHEELER
Lieutenant General
Chief of Engineers

OSU 7-12

ADDRESS REPLY TO
THE RESIDENT MEMBER
BEACH EROSION BOARD
LITTLE FALLS ROAD NW.
WASHINGTON, D. C.

WAR DEPARTMENT
OFFICE OF THE CHIEF OF ENGINEERS
BEACH EROSION BOARD
WASHINGTON

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30 July 1947

Admiral Merlin O'Neill
Assistant Commandant
U. S. Coast Guard
Washington 25, D. C.

Dear Sir:

Reference is made to your letter of 15 July 1947 (OSU)CG-601 forwarding a letter from Mr. A. Murray Benson dated 21 June 1947 and a copy of Commandant, Coast Guard's reply, all relative to beach erosion at Folly Beach, South Carolina.

In response to a request by the Honorable L. Mendel Rivers, Member of Congress, the Chief of Engineers has investigated the present situation at Folly Beach, South Carolina. Copy of the letter incorporating the findings of this investigation is inclosed for your information.

Very truly yours,

W. B. Stelzermuller
W. B. STELZERMULLER
Lt. Colonel, Corps of Engineers

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oy of ltr dtd 24 Jun 47
to Mr. Rivers



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