

AD-A082 529 ARMY ENGINEER DISTRICT PHILADELPHIA PA F/6 13/2
NEW JERSEY COASTAL INLETS AND BEACHES, STUDY OF SANDY HOOK TO I--ETC(U)
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A study of the navigation, beach erosion, and storm protection problems and needs for the area along the Atlantic Coast of New Jersey from Sandy Hook to Island Beach State Park was undertaken. The existing Federal navigation projects Manasquan River and Shark River were found to provide deep, well stabilized channels for commercial and recreational boats. However, erosion was found to have seriously reduced the width of		

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beaches in the study area subjecting public and private property to storm damage. A summary of project economics for storm measures is presented.

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SUBJECT: Fourth and Final Report on the New Jersey Coastal Inlets and
Beaches - Study of Sandy Hook to Island Beach State Park

Division Engineer, North Atlantic
ATTN: NADPL-F

AUTHORITY

1. This report is submitted pursuant to the following authority:

a. Navigation

(1) "RESOLVED BY THE COMMITTEE ON PUBLIC WORKS OF THE UNITED STATES SENATE, That the Board of Engineers for Rivers and Harbors, created under Section 3 of the River and Harbor Act, approved June 13, 1902, be, and is hereby, requested to review the report of the Chief of Engineers on Absecon Inlet, New Jersey; Cold Spring Inlet, New Jersey; Manasquan River Inlet, New Jersey; Beach Haven Inlet, New Jersey; and Hereford Inlet, New Jersey; published as House Document Numbered 375, Sixty-seventh Congress, second session, and other pertinent reports applicable thereto, with a view to determining whether any modification of the existing projects, or of the recommendations contained in the reports, is advisable at the present time." (Adopted 3 October 1962)

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(2) "RESOLVED BY THE COMMITTEE ON PUBLIC WORKS OF THE HOUSE OF REPRESENTATIVES, UNITED STATES, That the Board of Engineers for Rivers and Harbors be, and is hereby, requested to review the reports on Shark River Inlet, New Jersey, submitted in House Document No. 102, 76th Congress, 1st Session, and prior reports, with a view to determining whether the recommendations contained therein should be modified in any way at this time with particular reference to the construction and maintenance of protecting jetties at the entrance to Shark River Inlet, New Jersey." (Adopted 27 June 1950)

(3) "RESOLVED BY THE COMMITTEE ON PUBLIC WORKS OF THE UNITED STATES SENATE, That the Board of Engineers for Rivers and Harbors, created under Section 3 of the River and Harbor Act, approved June 13, 1902, be, and is hereby, requested to review the report of the Chief of Engineers on Shark River Inlet, New Jersey, published as House Document Numbered 102, Seventy-sixth Congress, first session, with a view to determining whether any modifications of the existing projects are advisable at this time." (Adopted 3 October 1962)

b. Beach Erosion Control

(1) The beach erosion control portion of this report is a cooperative study conducted by the Corps of Engineers, United States Army and the State of New Jersey. That study was made pursuant to an application and basic agreement, dated 22 September 1952, from the New Jersey Department of Conservation and Economic Development, for a cooperative study of the problems of beach erosion and shore protection along the

A

Atlantic Coast of New Jersey by the United States and the State of New Jersey. The agreement was approved by the Chief of Engineers, Department of the Army, 1 April 1953, in accordance with the authority conferred by the provisions of Section 2 of the River and Harbor Act approved 3 July 1930 (Public Law 520, 71st Congress), as amended and supplemented.

(2) A letter of agreement from the State of New Jersey, dated 9 May 1961, approved by the Chief of Engineers on 18 December 1961, constitutes appendix VII to the basic agreement. The appendix applies the terms of the basic application to provide for a cooperative study of beach erosion and shore protection along the Atlantic coast of New Jersey from Sandy Hook to Cape May in accordance with Public Law 520, 71st Congress.

c. Storm Protection. The authority to investigate the coastal shore protection needs of the study area is contained in the basic agreement discussed in the previous paragraph. At the request of New York District (NAN), this investigation was also responsive to Public Law 71, 84th Congress, 1st Session, for Area 3 of the NAN Atlantic Coast hurricane study program. This designated area includes the ocean front coast extending from Sandy Hook to Manasquan Inlet, and the inland tidal areas of Shrewsbury and Navesink Rivers. The authority is stated as follows:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That: In view of the severe damage to the coastal and tidal areas of the eastern and southern

United States from the occurrence of hurricanes, particularly the hurricanes of August 31, 1954, and September 11, 1954, in the New England, New York, and New Jersey coastal and tidal areas extending south to South Carolina, and in the view of the damages caused by other hurricanes in the past, the Secretary of the Army, in cooperation with the Secretary of Commerce and other Federal agencies concerned with hurricanes, is hereby authorized and directed to cause an examination and survey to be made of the eastern and southern seaboard of the United States with respect to hurricanes, with particular reference to areas where severe damages have occurred."

"Sec. 2. Such survey, to be made under the direction of the Chief of Engineers, shall include the securing of data on the behavior and frequency of hurricanes, and the determination of methods of forecasting their paths and improving warning services, and of possible means of preventing loss of human lives and damages to property, with due consideration of the economics of proposed breakwaters, seawalls, dikes, dams, and other structures, warning services, or other measures which might be required". (Adopted 15 June 1955)

SCOPE AND PURPOSE

2. The study, as presented in this report, is part of the comprehensive survey study of the coastal inlets and beaches along the Atlantic Coast of New Jersey from Sandy Hook to the Delaware Bay entrance of the Cape May Canal. Since the study area included 126 miles of shoreline and 12 inlets, it was decided by the Corps of Engineers and repre-

sentatives of the State of New Jersey that for study purposes the coastline should be divided into four sections. The sections of the coast were identified with groups of inlets that were closely related both economically and physically. The inlets were grouped and assigned priority designations in accordance with the desires of the State of New Jersey. The groupings of the inlets and the order of priority of study are:

First priority group - Printed as House Document No. 91-160 and authorized by Congress in 1970 under authority of Section 201 of Public Law 89-298.

Great Egg Harbor Inlet
Corson Inlet
Townsend Inlet

Second priority group - Printed as House Document No. 94-641 and authorized by Congress in 1976 under authority of Water Resources Development Act of 1976.

Hereford Inlet
Cape May Inlet
Delaware Bay Area

Third priority group - Printed as House Document No. 94-631 and authorized by Congress in 1976 under authority of Water Resources Development Act of 1976.

Barnegat Inlet
Beach Haven Inlet
Little Egg Inlet
Brigantine Inlet
Absecon Inlet

Fourth priority group - Shark River Inlet
Manasquan Inlet

3. This report addresses the fourth and final priority group which encompasses the reach from Sandy Hook to Island Beach State Park. Investigations were made of the damage problems along the oceanfront areas caused by storm tides and waves, inlet navigation problems, coastal erosion problems, and beach recreation needs. Pursuant to Public Law 84-71, tidal flooding problems in the Shrewsbury and Navesink Rivers located in Monmouth County were also investigated. The results of these investigations along with a summary of the findings from the first three interim group studies are presented in this final report.

DESCRIPTION OF STUDY AREA

4. The area under consideration in this report lies along the northern portion of the Atlantic coast of New Jersey in Monmouth and Ocean Counties. As shown on Plate 1, the study area extends from Sandy Hook to Island Beach State Park, a distance of approximately 51 miles. Also included are the inland tidal areas of the Shrewsbury and Navesink Rivers, located behind Sea Bright and Monmouth Beach. Descriptions of the various portions of the study area are presented in the following paragraphs.

5. Northern Section. The northern section of the study area is composed of the Sandy Hook peninsula, the barrier beaches of Sea Bright and Monmouth Beach, and the tidal areas of the Shrewsbury and Navesink Rivers located to the west of the barrier beaches. The surface of Sandy Hook is covered with low sand dunes interspersed with low sandy beach ridges. The Sandy Hook unit of Gateway National Recreation Area, under the admin-

istration of the U. S. Department of the Interior National Park Service, is located on this peninsula. Sea Bright and Monmouth Beach are protected by a massive stone seawall along the ocean front. Behind this wall, the barrier beach has a width varying from 100 to 1,500 feet and an elevation of about 5 to 10 feet above mean sea level. Most of the shoreline fronting on the Shrewsbury and Navesink Rivers rises steeply from the water level. However, sections of shoreline have relatively flat slopes which are subject to tidal flooding. The Shrewsbury River has a Federal navigation project which extends to the Atlantic Ocean.

6. Headland Section. The headland or middle section of the study area has sustained great erosion during the geologic past which has continued to the present time. The headlands include the southern portion of Monmouth Beach and the communities of Long Branch, Deal, Allenhurst, Ocean Township, Asbury Park, Ocean Grove, Bradley Beach, Avon-by-the-Sea, Belmar, Spring Lake, Sea Girt, Manasquan, Point Pleasant and Bay Head. Shark River Inlet and Manasquan Inlet, both having Federal navigation projects, are located in this reach 20 and 26 miles south of Sandy Hook, respectively. The bluff immediately adjoining the ocean in this section has an elevation of from 10 to 25 feet above mean sea level. The communities mentioned above are all highly developed with many old and fashionable homes. Groins constructed by the State of New Jersey and local municipalities are located throughout this reach of shoreline.

7. Southern Section. A long narrow neck of land extending from the headlands to Barnegat Inlet forms the southern section of the study area. This barrier beach separates Barnegat Bay from the Atlantic

Ocean, and is occupied by the communities of Mantoloking, Brick Township, Dover Township, Lavallette, Seaside Heights, Seaside Park and Berkeley Township. Island Beach State Park is located at the extreme lower end of the study area. This section has a width varying from approximately 500 feet to one mile and an elevation of 3 to 12 feet above mean sea level. Extensive development exists throughout this section, with the exception of Island Beach State Park which remains in a natural state.

EXISTING CORPS OF ENGINEERS PROJECTS

8. The study conducted herein examined the feasibility of modifying several Corps of Engineers projects. These projects and the extent of their completion are discussed below.

9. Sandy Hook to Barnegat Inlet Beach Erosion Control Project. The beach erosion control project shown on Plate 1 was authorized by the River and Harbor Act of 3 July 1958 in accordance with House Document Number 332, 85th Congress, second session. The project provides for Federal participation in the restoration and protection of the shore from Sea Bright to Seaside Park by artificial placement of sand to widen the beach to a minimum width of 100 feet at an elevation of 10 feet above mean low water, thence sloping at one foot vertically every 25 feet horizontally into the ocean, and the construction of 23 new groins and the extension of 14 existing groins in the Sea Bright-Ocean Township section. The project also provides for periodic nourishment to maintain the project dimensions through the use of five feeder beaches located at Mantoloking, Manasquan, Avon-by-the-Sea, Ocean Township and Long Branch. The total cost of this

project in January 1957 prices was estimated to be \$28,680,000, of which \$6,755,000 and \$21,925,000 were the Federal and non-Federal responsibilities, respectively. Construction of this project has not been initiated.

10. Manasquan River Navigation Project. The Manasquan River navigation project was adopted in 1930 and modified in 1935 and 1945. The project plan, as specified in House Document Number 77-356 and shown on plate 2, provides for a channel 14 feet deep and 250 feet wide from the Atlantic Ocean to the inner end of the north jetty, thence 12 feet deep and ranging from 100 to 300 feet wide to within 300 feet of the New York and Long Branch Railroad bridge. Also included in the plan is an eight foot deep widening on the north side of the channel, two anchorage areas, and jetties protecting the inlet channel. This project, with the exception of miscellaneous rock removal from the channel near the end of the north jetty, was completed in June 1961. The rock removal was completed in June 1963. Dredging of the two anchorage areas has not been undertaken and has been placed in the inactive category. The cost of the existing project to date is \$518,249, exclusive of \$300,000 contributed funds, \$39,000 for work on previous projects, and \$555,600 for rehabilitation. Maintenance dredging was last performed in May 1976 at a cost of \$95,653.

11. Shark River Navigation Project. The Shark River navigation project was adopted in 1945. The project plan, as specified in House Document Number 76-102 and shown on plate 3, provides for a channel 18 feet deep and 150 feet wide across the bar at the entrance to the inlet, thence 12 feet deep and 100 feet wide through the main and south channels to the State Route 35 bridge, thence a channel 8 feet deep and 100 feet wide to

the upper limit of the Belmar municipal boat basin. Additional depths and widths are also provided where necessary and practicable to produce satisfactory current velocities at bridges. An anchorage area is also specified east of Route 4N bridge to be 12 feet deep and having an area of 7.3 acres. The project was completed in 1947 at a first cost of \$150,000. The total operation and maintenance cost for the project to date is \$475,496. Maintenance dredging was last performed in 1971.

STATEMENT OF THE PROBLEMS

12. The problems to which this study addresses itself concern those directly related to the erosion of recreational and protective beaches, the condition of the inlets, and damages caused by storms. These problems along with an indication of the improvements desired by local interests are discussed in subsequent pages.

13. Beach Erosion Problem. The instability and recession of the beaches in the study area due to erosion is a significant problem. Local interests contend that the continuing erosion of the beaches has reduced their usefulness and attractiveness to recreationists and has jeopardized the security of life and property. Since the economy is heavily dependent upon the availability of adequate beaches, remedial measures in an attempt to control erosion have been instituted at many localities. However, these measures which have included the construction of groins and placement of beachfill, have not provided an overall solution to the problem. The average rate of shoreline movement within the study area is shown in Table 1. Although net accretion is shown for Sandy Hook, most of this has been confined to the extreme northern tip. A serious erosion problem exists in the lower portion of this reach which threatens to

separate the Sandy Hook peninsula from the barrier beaches to the south.

TABLE 1

AVERAGE SHORELINE MOVEMENT

<u>Reach</u>	Rate (ft/yr)	
	<u>1839-1965</u>	<u>1953-1965</u>
Sandy Hook	+2.5	+6.4
Sea Bright and Monmouth Beach	-2.3	-3.8
Long Branch to Avon-by-the-Sea	-2.5	-1.3
Belmar to Manasquan	-1.3	-2.7
Point Pleasant to Berkeley Township	-0.1	+2.7
Island Beach State Park	-2.9	+1.3

+ indicated seaward movement
- indicated landward movement

14. Navigation Problem. The existing navigation projects at Manasquan Inlet and Shark River Inlet provide deep, well stabilized channels for commercial and recreational boating. At present, no significant navigation problems are encountered by vessels utilizing Shark River Inlet. However, a number of maintenance related problems have increased the hazards to navigation at Manasquan Inlet. It is anticipated that a major rehabilitation planned for the inlet jetties will correct these problems in the near future. Accordingly, the purpose of navigation received no further consideration in this study.

15. Storm Problem. Tidal flooding and wave damage to property in the study area has occurred from coastal storms. In this regard, the State of New Jersey and local interests have constructed seawalls and bulkheads

at many localities throughout the northern part of the study area. These measures have significantly reduced the ocean front storm damage potential. However, a number of recent storms have damaged many of these structures. Low-lying areas along the Shrewsbury and Navesink Rivers are still subject to occasional tidal flooding.

FORMULATING A PLAN

16. The formulation of an effective comprehensive plan to best meet the identifiable problems and needs of the study area required consideration of many alternate solutions. These solutions were then screened on the basis of applicable criteria to permit the development and selection of a plan which best responded to the problems and needs.

17. Solutions considered. A beach erosion control project was authorized for the study area by the River and Harbor Act of 1958. This project is shown on Plate 1 and was discussed in an earlier section which presented existing Corps of Engineers projects. Details regarding the project plan are also presented in House Documents 84-361 and 85-332. The study presented in this report examined the feasibility of modifying this plan. Engineering methods such as beach-fill, groins, periodic nourishment, dunes, bulkheads and tidal barriers were considered. Alternative systems of structural works were formulated which included a single-purpose beach erosion control plan and a multiple-purpose beach erosion and storm protection plan.

18. Due to the size of the study area, seven sections were designated to facilitate the plan formulation. The sections were selected on the

basis of units of shore having somewhat similar conditions that could be protected and improved independently of each other. The sections are identified as: Island Beach State Park; Seaside Park to Point Pleasant; Manasquan Inlet to Belmar; Shark River Inlet to Long Branch; Monmouth Beach and Sea Bright; Sandy Hook; and tidal areas of Shrewsbury and Navesink Rivers.

19. Single-Purpose Beach Erosion Control Project. Consideration of alternate methods indicated that the features contained in the authorized project plan are still the best means for beach stabilization in the study area. These included the use of beachfill, groins and periodic nourishment. The following paragraphs consider the feasibility of modifying the existing authorized plan with a view toward improvement due to changed economic and physical conditions.

20. The authorized project plan recommends a 100-foot wide berm at ten feet above mean low water extending from Seaside Park to Sea Bright. The feasibility of extending the project limits was investigated. The beach to the north of Sea Bright consists of the Sandy Hook unit of the Gateway National Recreation Area. Gateway has been under the management of the National Park Service since it was established by Congress in October 1972. The Park Service has completed a draft report on the future development plans and a statement for the management of Gateway. The report identifies a critical area at the south end of Sandy Hook which is currently undergoing severe erosion. At present, the National Park Service is considering a number of long-range alternatives for beach restoration and maintenance in this area. Several of these alternatives would utilize dredged material from existing Corps of Engineers' navigation

projects in New York Harbor. If desired, the Corps of Engineers will be available in the future to provide technical assistance or to assist in implementing any of these beach erosion control plans. However, any costs beyond those of the normal maintenance dredging would be on a reimbursable basis as per Corps of Engineers policy. As a result, the northern limit of the authorized project plan was not extended. Extending the southern limit to include Island Beach State Park below Seaside Park was similarly found to be unwarranted. This area remains in a natural state and has no major current erosion problems. Accordingly, no increases in the authorized project beachfill limits are recommended at this time.

21. An economic analysis was accomplished to determine if the authorized project beach berm width should be increased beyond 100 feet. The berm width is governed primarily by the extent of recreational demand versus the availability of beach area. As a result, the average annual recreational beach use benefits and average annual costs of various berm widths were evaluated and compared under the principle of maximization of net recreational benefits to determine the optimum width. The results of this analysis are presented in table 2. The recreational benefits are based on beach visitation data furnished by the State of New Jersey, recreation demand projections contained in the "New Jersey Statewide Comprehensive Outdoor Recreation Plan", and a unit recreational day value of \$1.20. In the four sections considered, it was found that the authorized 100 foot berm width would maximize net benefits. This indicated that a beach width of greater dimensions should not be provided.

22. The authorized project plan also recommends the construction of 23 new groins and 14 groin extensions between Sea Bright and Lock Arbour.

Table 2

EVALUATION OF BEACH BERM WIDTH

Section	Berm Width (ft.)	Annual		Annual Costs			Net Benefits
		Recreational Beach Use Benefits	Initial Beachfill	Periodic Nourishment	Groins	Total	
Seaside Park to Point Pleasant	100	\$1,287,000	\$1,302,000	constant for reach	-	\$1,302,000	\$-15,000*
	125	1,423,000	1,598,000		-	1,598,000	-175,000
Manasquan Inlet to Belmar	100	\$1,829,000	\$1,118,000	constant for reach	-	\$1,118,000	\$711,000*
	125	1,907,000	1,296,000		-	1,296,000	611,000
Shark River Inlet to Long Branch	100	\$5,481,000	\$1,900,000	constant for reach	1/	\$1,900,000	\$3,581,000*
	125	5,579,000	2,320,000			2,320,000	3,259,000
Monmouth Beach and Sea Bright	100	\$419,000	\$1,447,000	constant for reach	1/	\$1,447,000	\$-1,028,000*
	125	456,000	1,624,000			1,624,000	-1,168,000

* Beach berm width which maximizes net recreational beach use benefits.

1/ Costs not evaluated in this preliminary analysis since annual costs for 125' beach groins would be greater than the costs for 100' beach groins, thereby not affecting optimum beach berm width.

Upon review of this plan, it was determined that the proposed structures would adequately complete the existing groin field within this section of shoreline. Additional groins for the remaining sections of the study area were found to be unwarranted, as was concluded in the project house documents. This was due to the presence of an extensive groin system in the Asbury Park-Manasquan area, and the lack of groins in the Point Pleasant-Seaside Park area. Therefore, additional groins beyond those contained in the authorized project plan are not recommended at this time.

23. The authorized project plan establishes feeder beaches for the purpose of periodic nourishment. This has been found to be an effective method to maintain the project beachfill alignment and cross-section, and no change is recommended at this time. However, the feasibility of implementing sand by-passing at Manasquan Inlet and Shark River Inlet should be investigated at the time of pre-construction planning. This may serve to reduce periodic nourishment requirements from offshore sources, thereby reducing the project maintenance costs.

24. Based on the preceding analysis, beach erosion control improvements in excess of those contained in the authorized project plan are unwarranted at this time. Pursuant to the authority stated at the beginning of this report, the feasibility of incorporating storm protection measures as part of the authorized plan was next considered.

25. Multiple-Purpose Project Plan. Storm protection measures were investigated as part of a multiple-purpose plan incorporating the features of the existing authorized beach erosion control project. Substantial major storm protection works were found to exist throughout the study area. This investigation examined the feasibility of providing supplemental measures.

26. In the ocean front sections of the study area, dunes were found to be the most economical storm protection measure where practicable. To provide protection from the design tide, three feet of freeboard above the estimated wave run-up elevation was provided. The top width of the dune was assumed to be 25 feet with side slopes of one vertical on five horizontal. Any dunes provided would also be stabilized with fencing and dune grass. In highly commercialized areas containing boardwalks, a bulkhead was assumed to be necessary.

27. Pursuant to Public Law 71, 84th Congress, a tidal flood protection plan was also developed for the Shrewsbury and Navesink Rivers. Due to the extremely low topography of many areas bordering the rivers, a tidal barrier was found to be the best overall comprehensive solution to the problem as opposed to a number of local improvements. The barrier would be located across the Shrewsbury River just north of the route 36 highway bridge, tying into high ground at Highlands and the existing sea wall at Sea Bright. The total structural length of this barrier was estimated to be 1,500 linear feet and would consist of tainter gates, cellular barriers, and rock and sand fill sections. The tainter gates could be opened during normal tides permitting navigation of the rivers.

28. The selection of a design tide consisted of providing storm protection measures which offered the greatest amount of protection commensurate with associated costs. This was accomplished by evaluating the average annual storm protection benefits and costs of protective works associated with various design tides. These were then compared using the principle of maximization of net storm protection benefits to arrive

at a design tide. Table 3 presents the results of the analysis accomplished for the study area. The storm protection benefits are based on damage survey information from the March 1962 coastal storm. Storm protection measures were not evaluated for Island Beach State Park and Sandy Hook since natural dunes and little development exists within these sections. The existing storm protection works in Sea Bright and Monmouth Beach consist of a massive seawall having a top elevation in excess of 14 feet above mean low water. Although this wall has sustained considerable damage from recent storms, it is anticipated that a planned rehabilitation will negate the need for further protective measures should the authorized beach erosion control project be implemented. For the remainder of the study area, the table reveals that storm protection measures supplemental to the authorized beach erosion control project are not economically justified. Although the costs for ocean front areas are for dunes and bulkheads only, storm protection would become less feasible when a portion of the beachfill costs were allocated to this purpose. Costs for lands, easements, and rights-of-way were similarly eliminated from this preliminary analysis.

29. Summary. Alternative measures for beach erosion control and storm protection have been formulated and evaluated for the study area. The findings indicate that beach erosion control improvements beyond those contained in the existing authorized project plan are not warranted at this time. Storm protection measures supplemental to this plan were not found to be economically justified. However, if the authorized beach erosion control project was implemented, a reduction in storm damages would result. A summary of project economics for this plan is presented

TABLE 3

OPTIMIZATION OF DESIGN TIDE

Section	Design Tide (M.L.W.)	Annual Storm		Net	
		Protection Benefits	Protection Costs	Benefits	BCR
Island Beach State Park					
Measures not evaluated since natural area.					
Seaside Park to Point Pleasant	9.0	Level of protection with only beach erosion control berm.			
	10.0	\$91,000	\$133,000	\$-42,000	0.7 *
	11.0	\$165,000	\$290,000	\$-125,000	-
Manasquan Inlet to Belmar	8.0	Level of protection with only beach erosion control berm.			
	9.0	\$9,000	\$50,000	\$-41,000	0.2 *
	10.0	\$19,000	\$61,000	\$-42,000	-
Shark River Inlet to Long Branch	8.0	Level of protection with only beach erosion control berm.			
	9.0	\$43,000	\$104,000	\$-61,000	0.4 *
	10.0	\$80,000	\$437,000	\$-357,000	-
Monmouth Beach and Sea Bright					
Major protective works exist throughout section negating further improvements.					
Sandy Hook					
Measures not evaluated since natural area.					
Shrewsbury and Navesink Rivers	8.0	\$30,000	\$1,088,000	\$-1,058,000	-
	9.0	\$80,000	\$1,129,000	\$-1,049,000	0.1 *
	10.0	\$120,000	\$1,175,000	\$-1,055,000	-

* Optimum design tide

in Table 4. The average annual benefits are based on information contained in Appendix B of House Document Number 84-361. Estimates of cost reflect the use of offshore beach nourishment material and a June 1973 price level.

COORDINATION AND PUBLIC INVOLVEMENT

30. The coordination and public involvement activities conducted for this study included numerous meetings, exchanges of correspondence, and telephone communications with Federal, state, and local agencies and private interests. A summary of the more important aspects of this effort is presented below.

31. An initial public meeting was held at the City of Asbury Park on 5 February 1968 prior to the initiation of this study. The meeting was attended by approximately 110 persons including representatives of the Federal government, the State of New Jersey, Monmouth and Ocean Counties, local municipalities, civic organizations, trade, business and private interests of the locality. Those who testified expressed the need for establishing a beach nourishment program in the study area. Numerous instances of erosion were cited, illustrating the current situation in many of the shore communities.

32. A meeting was held on 22 March 1974 with a representative of the National Park Service at Gateway National Recreation Area on Sandy Hook. The purpose of this meeting was to obtain information about the future developmental plans for this area prior to the formulation of a long-term beach erosion control program. The Corps officials were informed

Table 4

SUMMARY OF PROJECT ECONOMICS FOR AUTHORIZED PLAN
(June 1978 Price Level)

	Seaside Park to Point Pleasant	Manasquan Inlet to Belmar	Shark River Inlet to Long Branch	Monmouth Beach and Sea Bright
<u>Average Annual Benefits: 1/</u>				
Recreation	\$1,287,000	\$1,829,000	\$5,481,000	\$ 419,000
Prevention of storm damage	28,000	2,000	8,000	-
Increased earning power of private properties	6,421,000	713,000	4,820,000	2,902,000
Decrease in maintenance costs of existing structures	8,000	3,000	165,000	97,000
Totals	<u>\$7,744,000</u>	<u>\$2,552,000</u>	<u>\$10,474,000</u>	<u>\$3,413,000</u>
<u>Project First Costs:</u>				
Initial beachfill	\$18,259,000	\$15,671,000	\$26,645,000	\$20,283,000
Groins	-	-	1,943,000	4,238,000
Totals	<u>\$18,259,000</u>	<u>\$15,671,000</u>	<u>\$28,588,000</u>	<u>\$24,526,000</u>
<u>Average Annual Costs:</u>				
Interest and amortization	\$1,302,000	\$1,118,000	\$2,039,000	\$1,749,000
Periodic beach nourishment	2,268,000	1,187,000	1,808,000	532,000
Maintenance of groins	-	-	19,000	42,000
Totals	<u>\$3,570,000</u>	<u>\$2,305,000</u>	<u>\$3,866,000</u>	<u>\$2,323,000</u>
<u>Benefit-Cost Ratios</u>	2.2	1.1	2.7	1.5

1/ 6-7/8% discount rate, 50 year economic life

that little information was available at that time since a general management plan had not been completed by the National Park Service. A draft plan was subsequently published in September 1976 and furnished to the Corps of Engineers.

33. A meeting was held with New Jersey Department of Environmental Protection, Office of Shore Protection officials on 14 August 1974 in Trenton, New Jersey. The tentative findings of this study were discussed. Those present concurred with the recommendation that no change be made to the existing authorized beach erosion control project from Seaside Park to Sea Bright.

34. A late stage public meeting was held on 27 April 1978 in Neptune, New Jersey. The meeting was attended by 55 persons representing the State of New Jersey, local municipalities, civic organizations, and private interests. Those present generally expressed mixed reactions toward the Corps recommendations. Most agreed that something had to be done since a number of shore front properties were in immediate danger. However, several elected officials indicated that little or no local funding was available for cost sharing in coastal protective works.

35. Numerous exchanges of correspondence and telephone conversations have taken place throughout this study. Copies of pertinent letters are inclosed at the end of this report.

SUMMARY OF NEW JERSEY COASTAL INLETS AND BEACHES STUDY

36. This report addresses the fourth and final priority group contained

in the New Jersey Coastal Inlets and Beaches Study. The efforts of this study have produced a comprehensive long-term beach erosion control, navigation, and storm protection plan for the entire Atlantic Coast of New Jersey. A summary of the findings from the first three interim group studies and the current status of each are presented in Table 5.

RECOMMENDATION

37. The District Engineer has conducted a study of the navigation, beach erosion, and storm protection problems and needs for the area along the Atlantic Coast of New Jersey from Sandy Hook to Island Beach State Park. The existing Federal navigation projects at Manasquan River and Shark River were found to provide deep, well stabilized channels for commercial and recreational boats. Accordingly, modification of either project is not advisable at present. However, erosion was found to have seriously reduced the width of beaches in the study area subjecting public and private property to storm damage. A review of the existing beach erosion control project for the shore of New Jersey from Sandy Hook to Barnegat Inlet indicated that improvements beyond those previously authorized are not warranted. The authorized project plan presented in House Documents 84-361 and 85-332 consists of the placement of beachfill to a width of 100 feet at an elevation of 10 feet above mean low water between Seaside Park and Sea Bright, the construction of 23 new groins and the extension of 14 existing groins, and periodic nourishment. Storm protection measures for ocean front sections of the study area and the tidal areas of the Shrewsbury and Navesink Rivers, investigated in response to the cooperative agreement with the State of New

TABLE 5

NEW JERSEY COASTAL INLETS AND BEACHES

FIRST PRIORITY GROUP PROJECTS

<u>Project Area and Description</u>	<u>Status</u>
Great Egg Harbor Inlet-Peck Beach: Estimated cost of construction at 1977 prices is \$12,551,000 Federal and \$12,400,000 State of New Jersey. Project will provide for 2 jetties with weir and deposition basin, navigation channel (12' x 300'), 2 groins in Ocean City, and beach fill and periodic nourishment.	Authorized in 1970 under Sec. 201 of the Flood Control Act of 1965. Funds were appropriated in FY 77 for completion of advance engineering and design. However, the project has been suspended and placed in the inactive category due to the inability of the State of New Jersey to provide the required local assurances.
Corson Inlet-Ludlam Beach: Estimated cost of construction at 1977 prices is \$11,356,000 Federal and \$12,000,000 State of New Jersey. Project will provide for 2 jetties with weir and deposition basin, navigation channel (12' x 300'), 10 groins, and beach fill and periodic nourishment.	Inlet channel was initially dredged by the Corps in 1967 under the emergency authority provided by River and Harbor Act of 1945. Last maintenance dredging was done by the Corps in 1969 with reimbursement by the State. The combined inlet and beach project was authorized in 1970 under Sec. 201 of the Flood Control Act of 1965. Funds were appropriated in FY 77 for completion of advance engineering and design. However, the project has been suspended and placed in the inactive category due to the inability of the State of New Jersey to provide the required local assurances.
Townsend Inlet-Seven Mile Beach: Estimated cost of construction at 1977 prices is \$8,692,000 Federal and \$7,720,000 State of New Jersey. Project will provide for 2 jetties with weir and deposition basin, navigation channel (12' x 300'), 7 groins along inlet, and beach fill and periodic nourishment.	Inlet channel was initially dredged by the Corps in 1967 under the emergency authority provided by River and Harbor Act of 1945. Last maintenance dredging performed during July 1976 under Corps permit issued to State. The combined inlet and beach project was authorized in 1970 under Sec. 201 of the Flood Control Act of 1965.

TABLE 5 (Cont'd)

SECOND PRIORITY GROUP PROJECTS

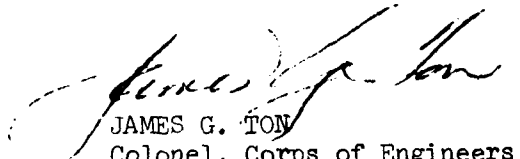
<u>Project Area and Description</u>	<u>Status</u>
Hereford Inlet-Five Mile Beach: Estimated cost of construction at 1977 prices is \$11,908,000 Federal and \$7,170,000 State of New Jersey. Project will provide for 2 jetties with weir and deposition basin, dredge and maintain navigation channel (12' x 300'), 4 groins and bulkhead along inlet frontage of North Wildwood and ocean frontage, dunes with sand fence and dune grass.	Inlet channel was initially dredged by the Corps in 1967 under the emergency authority provided by River and Harbor Act of 1945. Last maintenance dredging was done by the State in 1975 under Corps permit. The combined inlet and beach project was authorized in 1976 by the Water Resources Development Act of 1976.
Cape May Inlet to Lower Township: Estimated cost of construction at 1977 prices is \$20,800,000 Federal and \$3,700,000 State of New Jersey. Project will provide for a break-water updrift of north jetty with weir and deposition basin, 9 groins, rehabilitate portion of Cape May seawall, beach fill and periodic nourishment, dunes with sand fence and dune grass.	Authorized in 1976 by the Water Resources Development Act of 1976. Section 111 of the River and Harbor Act of 1968 is applicable to this project. Phase I pre-construction planning initiated in October 1977.
Cape May Point: Estimated cost of construction at 1977 prices is \$3,290,000 Federal and \$1,760,000 State of New Jersey. Project will provide for 5 groins and 3 groin extensions, 2 dikes, beach fill and periodic nourishment, dunes with sand fence and dune grass.	Authorized in 1976 by the Water Resources Development Act of 1976.

TABLE 5 (Cont'd)

THIRD PRIORITY GROUP PROJECTS

<u>Project Area and Description</u>	<u>Status</u>
Barnegat Inlet: Estimated cost of construction at 1977 prices is \$15,100,000 Federal and \$12,000,000 State of New Jersey. Project will provide for a new south jetty, dredging and maintaining a navigation channel (10' x 300'), filling of eroded area along north bank of channel, and jetty sport fishing facilities.	Inlet channel periodically dredged by the Corps in regard to previous authorized project. Current project authorized in 1976 by the Water Resources Development Act of 1976.
Long Beach Island: Estimated cost of construction at 1977 prices is \$9,610,000 Federal and \$9,400,000 State of New Jersey. Project will provide for 1 new groin, reimbursement for 14 groins, modification of 7 groins, maintaining existing and new groins, maintaining existing south jetty at Barnegat Inlet as a weir breakwater creating a deposition basin, and beach fill and periodic nourishment.	Authorized in 1976 by the Water Resources Development Act of 1976.
Brigantine Island: Estimated cost of construction at 1977 prices is \$5,700,000 Federal and \$2,800,000 State of New Jersey. Project will provide for 1 new groin and 1 extension, reimbursement for 6 groins and 1 extension, maintaining existing and new groins, beach fill and periodic nourishment, dunes with sand fence and dune grass, and removing timber piling from beach.	Authorized in 1976 by the Water Resources Development Act of 1976.
Absecon Island: Estimated cost of construction at 1977 prices is \$8,618,000 Federal and \$8,800,000 State of New Jersey. Project will provide for breakwater updrift of existing north jetty at Absecon Inlet with weir and deposition basin, relocation of existing navigation channel, and beach fill and periodic nourishment.	Inlet channel periodically dredged by the Corps in regard to previous authorized project. Current project authorized in 1976 by the Water Resources Development Act of 1976.

Jersey and Public Law 71, 84th Congress, were found to be economically unjustified. With full consideration of these findings, the District Engineer does not recommend improvements beyond those contained in the previously authorized projects.



JAMES G. TON
Colonel, Corps of Engineers
District Engineer

Revised December 1978

NADDE (July 78) 1st Ind

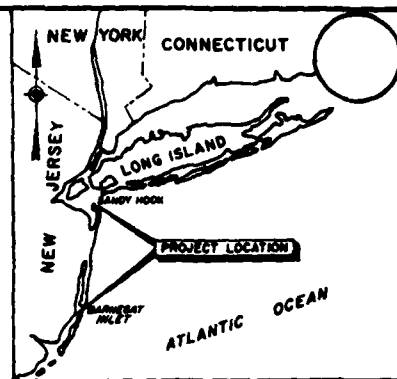
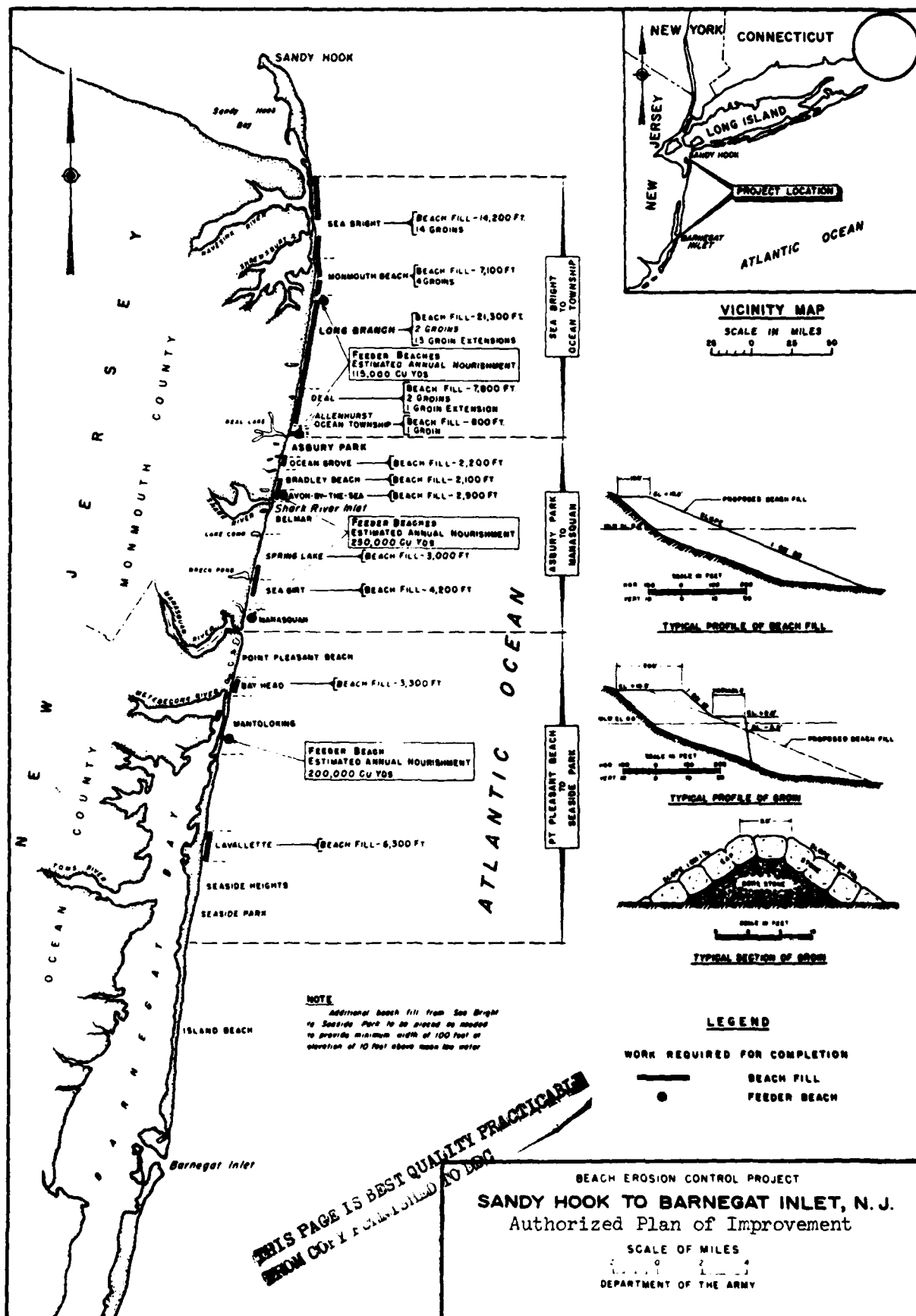
SUBJECT: Fourth and Final Report on the New Jersey Coastal Inlets and
Beaches - Study of Sandy Hook to Island Beach State Park

DA, North Atlantic Division, Corps of Engineers, 90 Church Street
New York, New York 10007 30 January 1979

TO: HQDA (DAEN-BR/Resident Member)

I concur in the District Engineer's conclusion and recommendation.

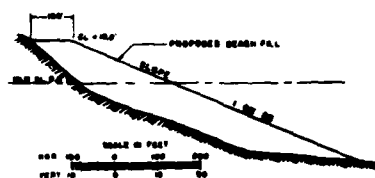

JAMES A. JOHNSON
Major General, USA
Division Engineer



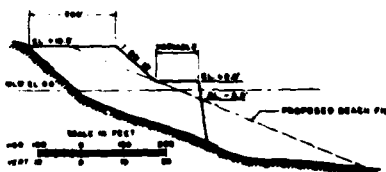
VICINITY MAP

SCALE IN MILES

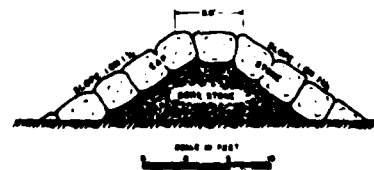
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TYPICAL PROFILE OF BEACH FILL



TYPICAL PROFILE OF GROIN



TYPICAL SECTION OF GROIN

LEGEND

WORK REQUIRED FOR COMPLETION



BEACH FILL



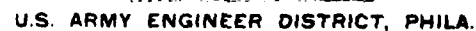
FEEDER BEACH

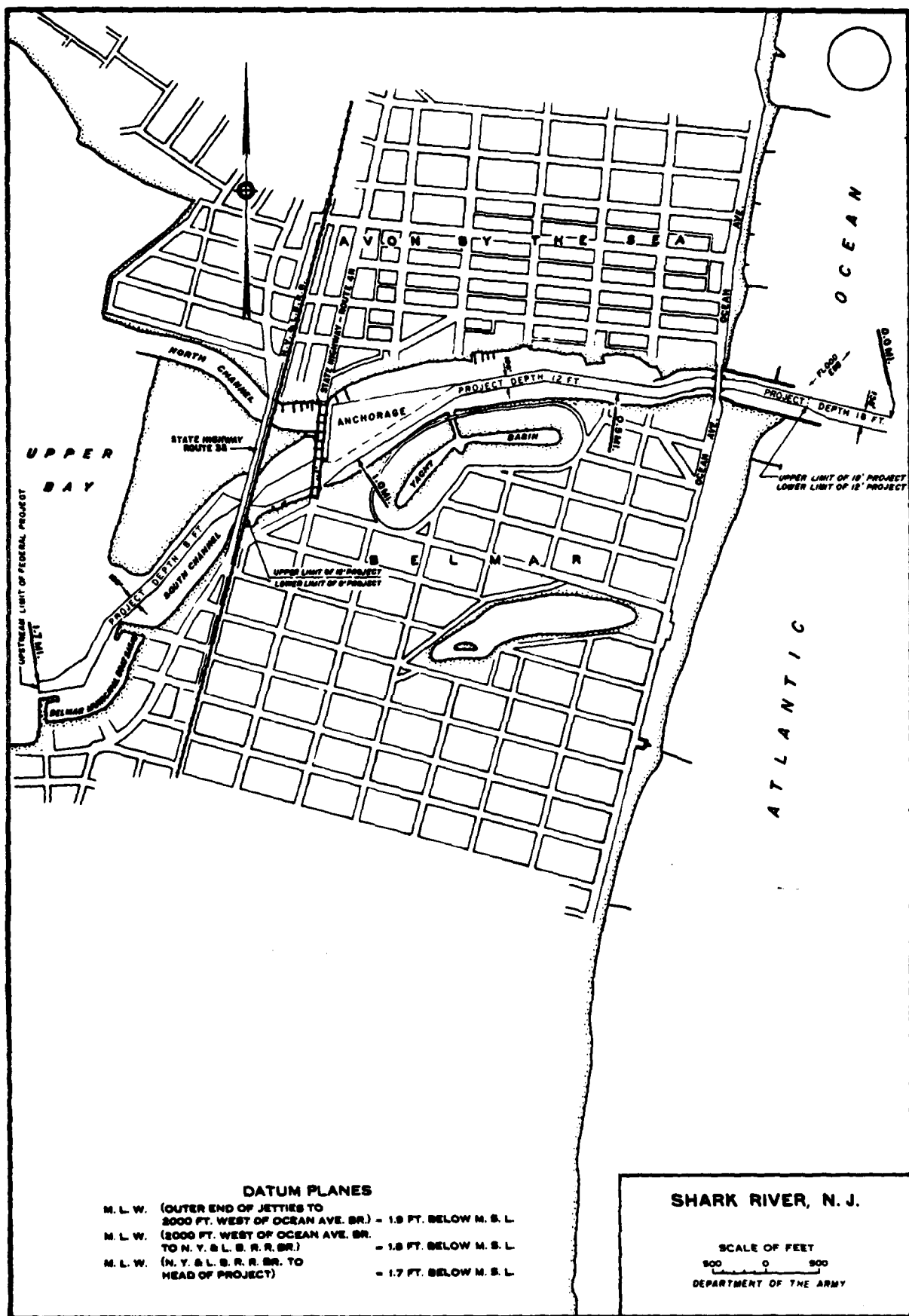
BEACH EROSION CONTROL PROJECT

SANDY HOOK TO BARNEGAT INLET, N. J.
Authorized Plan of Improvement

SCALE OF MILES

0 1 2
DEPARTMENT OF THE ARMY







United States Department of the Interior

NATIONAL PARK SERVICE

NORTH ATLANTIC REGION

15 STATE STREET

BOSTON, MASSACHUSETTS 02109

IN REPLY REFER TO:

L-7619-NAR-(PE)

April 25, 1978

Mr. Worth D. Phillips
Chief, Engineering Division
Philadelphia District
Corps of Engineers
Custom House-2D & Chestnut Streets
Philadelphia, Pennsylvania 19106

Dear Mr. Phillips:

This is in response to your letter of 28 February requesting our comments on the Corps' draft study report on the New Jersey Coastal Inlets and Beaches—study of Sandy Hook to Island Beach State Park. It is our understanding that this report will be the basis for planning such project work as beach erosion control, navigation improvements, and storm protection measures.

The correspondence exhibits attached to the draft study report clearly indicate the Corps' awareness of and need for interagency involvement in planning for shoreline protection. We regret that the National Park Service was unable to provide a substantive planning outlook for the management of Gateway National Recreation Area until this year. By now you should have received copies of the Decisions Paper and Draft Environmental Impact Statement (DEIS) for Gateway National Recreation Area which were mailed from Gateway headquarters at Floyd Bennett Field on April 13 and 14. If these materials have not been received, please contact the Superintendent (212-252-9150) immediately. Because of the Service's urgent need to undertake a long range shore protection project for the South Beach area of Sandy Hook, we have prepared an Assessment of Alternatives, now being printed, and which we expect to be distributed on May 10. We very much hope these documents will be useful in the continuum of your study/planning work, and we look forward to having your comments on them so as to assist in our project endeavors.

As will be readily understood upon review of our Service documents referenced above, we hold serious concern for certain aspects of the Recommendation (pp. 25-26) in your study report such as the construction of 23 groins and extension of 14 others. Our shoreline management

responsibilities at Sandy Hook lie at the end of and are totally (without costly and extensive manipulation by man) dependent upon the natural littoral drift supply of sand. It has been our observation, confirmed by the Corps' commentaries, that the erosion problems where groins have been installed at Westhampton Beach and Easthampton, Long Island, have resulted from the lack of filling of sand in the groin compartments. Although our Service tends to disfavor groins and other structural methods, we are most seriously concerned about Sandy Hook for the present lack of sand in the natural and/or manipulated littoral drift and moreover the absence of full assurance and guarantee of adequate filling and maintenance of the groin compartments. By experience and current outlook we do not see the proposed recommendations as providing adequate shoreline protection, much less providing any beneficial or advantageous assistance to the need for long range protection of Sandy Hook.

Specifically to the deficiencies we find in the draft study report, we strongly recommend the following:

Paragraph 20 (pp. 13-14) should be updated per the Gateway National Recreation Area Decisions Paper and DEIS mentioned above. Also, we have sent Colonel Dutchyshyn (April 10, 1978) a copy of a research project report on beach nourishment alternatives for Sandy Hook, South Beach, which the Service had done in relation to the long range alternative assessment to be released May 10. This research report will provide data to assist in updating the Corps' study report in a number of areas. Further, we would encourage your consultation with the Center for Coastal and Environmental Studies at Rutgers University as we feel that that entity is the most up-to-date source of storm impact/shore erosion data, particularly from the fall-winter 1977-1978 storm devastations of Sandy Hook and the upper New Jersey coastal area.

Paragraph 32 (p. 20). Again, updating per our Service documents mentioned above and this letter is needed.

Paragraph 36 (Recommendation) pp. 25-26. We feel a more thorough environmental impact analysis is warranted to substantiate the recommendation to proceed with the project as authorized. In view of our concerns expressed above, we see the potential for major impacts on the Sandy Hook Unit of Gateway National Recreation Area. We realize such an analysis could result in an overhaul of this study report and cause some time delay in proceedings. If these impacts cannot be addressed now, they will have to be at later implementation stages.

We appreciate this opportunity to review and comment on the draft study report and ask that this commentary be made a part of any record of public or interagency involvement on this matter.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "D. P. Galvin", with a horizontal line extending to the right.

Denis P. Galvin
Acting Regional Director

LEAGUE OF WOMEN VOTERS

OF MONMOUTH COUNTY, N.J.

934 Navesink River Road
Locust, N. J. 07760

April 20, 1978

U. S. Army Engineer District, Philadelphia
Custom House
2nd and Chestnut Streets
Philadelphia, Pa. 19106

Re; NAPEN-R

The League of Women Voters of Monmouth County strongly opposes construction of 23 new groins and the extension of 14 others as part of the proposed beach protection program Sandy Hook to Island Beach State Park.

It has repeatedly become obvious not only in New Jersey, but in other parts of the country where groins have been constructed that rather than protecting the coast, they cause its destruction. In New Jersey they do this by interrupting the northward littoral drift of sand and preventing its deposition on the beach. This result is readily observed by noting the temporary build-up of sand on the south side of a groin and the starvation of the beach on the north side of the same groin. Obviously, the further the groin is extended into the sea, the greater the interruption of the natural drift of sand becomes and the less the sand is deposited on the beach. Without actual experience to back it, we would anticipate that with the construction of the number of new groins the Army proposes in the Sea Bright-Monmouth Beach area, the less any sand would be captured, thereby involving increasing work to replenish the beaches.

Since New Jersey's coast has already been over-generously supplied with groins, support of a beach feeding proposal is essential. We are pleased to see that this is proposed on a continuing basis. We hope, however, that planning to replenish the beaches regularly will also involve preliminary studies to see where and if sand replenishment is needed. The ocean cannot be counted on to cause destruction similar to that of the past two years on a regular basis. It would, obviously, be costly and uneconomical to plan to provide sand regularly if it were not needed.

While we heartily support the Army's proposal to nourish the beaches at regular feeder points, we are puzzled as to the location of these beaches. We are most familiar with the northern section of the coast involved in the proposal and it seems to us that very real danger points exist in Monmouth Beach and Sea Bright with serious starvation north of the northernmost groin on Sandy Hook. We wonder why beaches in those areas have not been selected as feeder points. Both Sea Bright and Monmouth Beach had surf damage on the west

side of Route 36. Houses with severely restricted escape possibilities are seriously threatened in Sea Bright. Yet the ability to provide matching funds for reconstruction of the seawall and for beach replenishment is lacking.

The League of Women Voters of Monmouth County would be much happier to see the Army Corps propose to remove present groins entirely, construct fishing piers on pilings into the ocean and work on reconstruction of natural beaches with artificial rebuilding of dunes similar to the work done several years ago along the bayshore. As in that case, this work should include experimental planting of sand-retaining grasses. With regular replenishment of the beaches, it might become possible to stabilize them sufficiently to permit some reconstruction of dunes in areas in front of the existing seawall. This has started to occur in protected areas to the rear of some beach club parking lots.

Sincerely,

Kathleen H. Rippere

Kathleen H. Rippere, 2nd V. P.
Water Chairman

Monmouth County Environmental Council

MONMOUTH COUNTY PLANNING BOARD

ONE LAFAYETTE PLACE

FREEHOLD, NEW JERSEY 07728



201 431 7460

April 20, 1978

U.S. Army Engineer District, Philadelphia
Custom House
2nd & Chestnut Streets
Philadelphia, PA. 19106

ATTENTION: NAPEN - R

RE: Navigation, Beach Erosion Control, & Storm
Protection Study of the New Jersey Coastal
Inlets and Beaches Sandy Hook to Island Beach
State Park

Gentlemen:

The Monmouth County Environmental Council is pleased to submit its views and recommendations on the above referenced proposal. It has been known for many years that "permanent" beach structures (i.e. groins) do not adequately protect the beaches for which they were designed. Although such structures do, to some extent reassure local residents that something is being done to protect life and property, it is also fair to say that such structures give said residents a false sense of security or dependence on their "permanence". Historically ocean bulkheads and groins have had rather short lives. This was never made clearer than during the winter of 1913-14 when three (3) severe storms hit the Monmouth County shore over a two month period. The annual reports of the New Jersey State Geologist vividly describe the destruction caused by these storms including the total loss of the Octagon Hotel (Sea Bright) in January, 1914.

After reviewing the performance record of more than 100 years of such "shore protection structures" it becomes evident that there must be a better way. The Environmental Council feels that a massive beach nourishment program is the answer. The Army Corps of Engineers proposed to establish feeder beaches has much merit. The Council feels that once wide beaches are established along the Monmouth County coast, an annual beach nourishment program could be initiated to maintain the new beaches. Such beaches would serve the dual function of storm protection/public recreation.

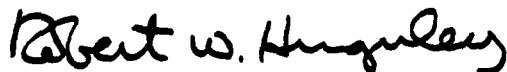
NAPEN - R
Page 2
April 20, 1978

The Army proposal to build 23 new groins and extend 15 others will, the Council feels, tend to increase local dependence on such building on or near the ocean beaches. Thus the construction of such groins could have far reaching land use and developmental impacts. A beach nourishment program, however may not create the same land use impacts or changes.

The Council further questions whether Federal-State-Local funding will be authorized for this project. In 1971 the Army Corps of Engineers, North Atlantic Division prepared a National Shoreline Study which dealt with erosion problems for the entire east coast of the United States. In vol. I of the North Atlantic Region portion of the study the Army estimated that shore protection efforts for the Sandy Hook to Manasquan Inlet would amount to \$48,960,000.00. The 1971 proposal included construction of bulkheads, groins and revetments as well as sand by - passing and beach nourishment. The equally comprehensive project proposed in 1978 will cost much more. The Environmental Council feels that a comprehensive beach nourishment program can be instituted quicker, easier and at less cost than the Army proposals of 1978 and 1971 and the time gained is very important to our coastal municipalities.

The Monmouth County Environmental Council appreciates the opportunity to offer comments on this proposal and is willing to discuss them further.

Very truly yours,



Robert W. Huguley,
Senior Environmental Planner

RWH/jef

cc: Neal Munch
Robert Halsey
Kathleen Rippere



State of New Jersey
DEPARTMENT OF ENVIRONMENTAL
PROTECTION
TRENTON

DIVISION OF MARINE SERVICES

PLEASE ADDRESS REPLY TO:
P. O. BOX 1889
TRENTON, N. J. 08625

April 7, 1978

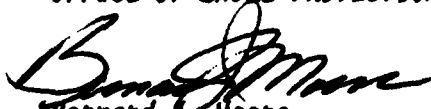
Colonel Harry V. Duchyshyn
U. S. Army Engineer District, Philadelphia
ATTN: NAPEN-R
Custom House
2nd & Chestnut Streets
Philadelphia, PA 19106

Dear Colonel Duchyshyn:

Please be advised that the Office of Shore Protection will be present on April 27, 1978 at the Whitesville School Auditorium, Neptune, New Jersey to present views of the Department of Environmental Protection on the navigation, beach erosion control and storm protection study between Sandy Hook and Island Beach State Park.

Prior to this meeting, a formal letter will be initiated.

Very truly yours,
OFFICE OF SHORE PROTECTION


Bernard L. Moore
Supervisor

BJM:jb



**DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD**

MAILING ADDRESS
COMMANDER (dpl)
THIRD COAST GUARD DISTRICT
GOVERNORS ISLAND
NEW YORK, N.Y. 10004
FTS 264-0293

5000

Mr. Worth D. Phillips
Department of the Army
Philadelphia District Corps of Engineers
2 D and Chesnut St.
Philadelphia, PA 19106

Dear Mr. Phillips:

Enclosed are Third Coast Guard District comments on the Fourth Report for the New Jersey Coastal Inlets and Beaches. Comments have been included from three Coast Guard Group Commands: Group Sandy Hook, which extends from the Raritan River to Toms River; from Group Atlantic City, which extends from Toms River to Ocean City; and from Group Cape May, which extends from Ocean City to the Cohansey River.

I hope these comments are helpful to you in completing your study. If you have any questions, contact the District Planning Officer, CDR Bruce G. Lauther (address & phone number right hand corner).

Very truly yours,

G. N. Wood
G. N. WOOD
Captain U.S. Coast Guard
Chief of Staff (Acting)
Third Coast Guard District

Encl: (1) Third District comments on Report on the NJ Coastal Inlets and Beaches

Copy to:
COMDT (G-CPE)
Chairperson DOT IPG II & III
CCGD3 (oan) (ecv)

ENCLOSURE (1)

Third Coast Guard District Comments on Fourth and Final Report on the NJ Coastal Inlets and Beaches Study of Sandy Hook to Island Beach State Park

GROUP SANDY HOOK

No existing Coast Guard facilities are in jeopardy at this time with the exception of land access to Sandy Hook itself (which is not discussed in the study), accretion problems at Station Sandy Hook boat basin, and shoaling at the entrance to Station Shark River boat basin. The problem of sand accretion in the boat basin can be solved by periodic dredging.

Beach erosion and storm damage does present a threat to some minor Coast Guard aids to navigation. Structure 15 at the tip of Sandy Hook was destroyed by a combination of erosion and a storm. The Manasquan Inlet jetty light was also damaged. The shifting of channels in the Shrewsbury and Navesink Rivers does create an aids placement problem.

GROUP ATLANTIC CITY

No Coast Guard units are directly affected by beach erosion; however, shoaling of inlets is a significant problem. Both Beach Haven Inlet and Great Egg Inlet have shoaled this winter. Barnegat Inlet is a disaster. The South Jetty Light was destroyed on 10 December 1977, apparently by current undercutting.

GROUP CAPE MAY

A major problem exists at Cape May Lower Township where about twenty-percent of our realty has been lost through the collective actions of storms and erosion. An Army Corps of Engineers project has been proposed to resolve this problem. This concern is the subject of separate and continuing communications between USA-COE and USCG. A joint visit to the site has been proposed for late this spring. In the distant future, erosion could again be a factor to contend with at Cape May Point Light. The navigation channel at Cape May is maintained by periodic dredging by the Corps of Engineers.

No Coast Guard facilities are directly affected by erosion at Townsend Inlet or Hereford Inlet, but navigation is affected. For approximately the last eighteen years, the inlets have shoaled to the extent that dredging has been required every other year.



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
112 West Foster Avenue
State College, Pennsylvania 16801

April 3, 1978

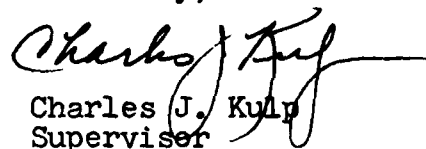
Mr. Worth D. Phillips
Chief, Engineering Division
Philadelphia District, Corps of Engineers
Custom House - 2nd and Chestnut Streets
Philadelphia, Pennsylvania 19106

Dear Mr. Phillips:

This is in response to your letter dated February 28, 1978 in which you request our review of a draft study report concerning New Jersey Coastal Inlets and Beaches - Sandy Hook to Island Beach State Park.

We reviewed the study and have no comments at this time. However, we look forward to working with you as your planning on this project develops.

Sincerely,


Charles J. Kulp
Supervisor
Field Office





IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
One Gateway Center Suite 700
NEWTON CORNER, MASSACHUSETTS 02158

MAR 1 1978

Mr. Worth D. Phillips
Chief, Engineering Division
Philadelphia District, Corps of Engineers
Custom House, 2D & Chestnut Streets
Philadelphia, PA 19106

Dear Mr. Phillips:

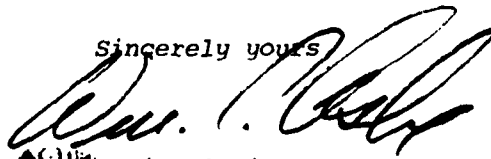
We have received your February 28, 1978 letter concerning your study of the New Jersey Coastal Inlets and Beaches - Sandy Hook to Island Beach State Park.

The letter and the enclosed materials has been forwarded to our Harrisburg Area Office for this Service's review and reporting under the Fish and Wildlife Coordination Act.

In the future please direct these coordination activities in New Jersey, New York, Pennsylvania and West Virginia to:

Mr. Norman Chupp, Area Manager
U.S. Fish and Wildlife Service
1500 North Second Street
Harrisburg, PA 17102

Sincerely yours


Regional Director

CC: HAO with enclosures

WPIH

28 FEB 1978

Mr. William Paterson
Assistant Secretary
U.S. Department of the Interior
Room 2003K
John F. Kennedy Building
Boston, MA 02203

Dear Mr. Paterson:

This letter concerns the beach erosion control, navigation, and storm protection study being conducted by this office for the coast of New Jersey from Sandy Hook to Island Beach State Park. This study is being accomplished under a cooperative agreement with the State of New Jersey and comprises the final segment of the comprehensive study for the coast of New Jersey from Sandy Hook to the Delaware Bay Entrance of the Cape May Canal.

Inclosed is a copy of the draft study report for your review and comment. The tentative findings indicate that the beach erosion control project authorized by Congress in 1958 is still the most viable plan for the study area. A general outline of that plan of improvement is presented in the report. The existing Federal navigation projects at Manasquan River and Shark River were also found to be adequate for commercial and recreational boating. Therefore modification of either project is not recommended at present.

I would appreciate receiving your views and comments at this time. Should you have any questions or desire additional information, please do not hesitate to contact me.

Sincerely yours,

1 Lcl
As stated

WORTH D. PHILLIPS
Chief, Engineering Division

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FROM COPY 1 & 2 RETURNED TO BDC



IN REPLY REFER TO:

D18

United States Department of the Interior

NATIONAL PARK SERVICE

Gateway National Recreation Area

Headquarters Building 69

Floyd Bennett Field

Brooklyn, N.Y. 11234

October 4, 1977

District Engineer
United States Corps of Engineers
Philadelphia District
United States Customs House
Second and Chestnut Streets
Philadelphia, Pa. 19106

Attention: Mr. Tim Blankenhorn

Dear Sir:

In response to Mr. Blankenhorn's telephone call of September 30, I am enclosing a copy of the discussion draft general management plan for Gateway National Recreation Area.

This document should give your planners an overview of our current thinking with regard to future development and use at Sandy Hook Unit, Sandy Hook, New Jersey. Currently underway is the preparation of a draft environmental impact statement which will further refine our planning concepts, and this document should be available for public review and comment early in the spring. We shall be pleased to furnish you a copy of the EIS for your review and comment when it is available.

Sincerely yours,

Herbert Olsen
Acting Superintendent

Enclosure



Save Energy and You Serve America!

NAFEN-R

15 AUG 1977

Honorable Rocco Ricci
Commissioner, New Jersey Department
of Environmental Protection
P. O. Box 1889
Trenton, New Jersey 08625

Dear Commissioner Ricci:

This letter concerns the beach erosion control, navigation, and storm protection study being conducted by this office for the coast of New Jersey from Sandy Hook to Island Beach State Park. This study is being accomplished under a cooperative agreement with the State of New Jersey.

Inclosed is a copy of the draft study report for your review and comment. Please note that the information contained in this draft report is preliminary and is not for release to the public at this time. The tentative findings indicate that the beach erosion control project authorized by Congress in 1958 is still the most viable plan for the study area. A general outline of that plan of improvement is presented in the report. The existing Federal navigation projects at Manasquan River and Shark River were also found to be adequate for commercial and recreational boating. Therefore modification of either project is not recommended at present.

I would appreciate receiving your views and comments at this time. Based on the negative findings of this study, I would also like your opinion as to the need for a public meeting. Should you have any questions or desire additional information, please do not hesitate to contact me.

Sincerely yours,

1 Incl
As stated

WORTH D. PHILLIPS
Chief, Engineering Division

Cy Furn: (w/incl)
Mr. Bernard J. Moore, Supervisor
Office of Shore Protection
P. O. Box 1889
Trenton, NJ 08625

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State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEC 31 1974

TRENTON 08625

OFFICE OF THE COMMISSIONER

Colonel C. A. Selleck, Jr., District Engineer
Philadelphia District Army Corps of Engineers
Custom House
2nd and Chestnut Streets
Philadelphia, Pennsylvania 19106

Dear Colonel Selleck:

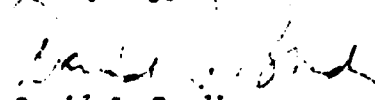
We have reviewed your report entitled "Study of New Jersey Coastal Inlets and Beaches - Sandy Hook to Island Beach State Park".

It is the purpose of this letter to state that we concur in the findings and recommendations as stated in the existing authorized project and published under House Document No. 335, 85th Congress, 1958, however, under the existing authorized project, no consideration was given to the navigational improvement at Shark River Inlet, namely, the two existing jetties. It is our intention to request an authorized study be made with the view toward modifying the existing project to incorporate these jetties and the State to receive Federal compensation toward the cost for their construction.

We realize that Federal financial participation in this authorized project is limited due to the very large percentage of privately owned beaches in the Study area. Accordingly, the State finds it very difficult to justify its participation for that same reason. Due to current trends to open all beaches to the general public, we recommend that this report be forwarded to your higher headquarters for their consideration.

We do believe that the authorized work is necessary and should be done.

Faithfully,


David J. Bardin
Commissioner



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

GATEWAY NATIONAL RECREATION AREA

HEADQUARTERS BLDG.

FLOYD BENNETT FIELD

BROOKLYN, N. Y. 11234

November 6, 1974

BREEZY POINT UNIT, N.Y.

JAMAICA BAY UNIT, N.Y.

STATEN ISLAND UNIT, N.Y.

SANDY HOOK UNIT, N.J.

Mr. Worth D. Phillips
Chief, Engineering Division
Department of the Army
Philadelphia, Pennsylvania 19106

Dear Mr. Phillips:

Please excuse the delay in answering your letter of August 21, regarding the beach control and hurricane protection study along the New Jersey coast, including a portion of Gateway at Sandy Hook.

Plans have not been finalized for total development of Gateway at this time. A Washington based team had been working on the long-range conceptional master plan for Gateway until early this fall. We have now taken a new direction in our planning effort in that I will soon have two planners on my staff to address themselves to an interim master plan that will allow us to more realistically program our immediate development needs.

I hesitate making any judgements regarding a time frame for completion of this interim master plan, except to state that high priority will be given to the Sandy Hook Unit of Gateway.

I have discussed this matter with Mr. Tim Blankenborn of your planning staff and he feels that this response will satisfy your needs at this time.

Sincerely yours,

Joe Antosca
Superintendent



Save Energy and You Serve America!



IN REPLY REFER TO:
L58

United States Department of the Interior

NATIONAL PARK SERVICE

NEW YORK DISTRICT
26 WALL STREET
NEW YORK, N.Y. 10005

June 19, 1973

Mr. Worth D. Phillips
Chief, Engineering Division
Department of the Army
Custom House - 2 D & Chestnut Streets
Philadelphia, Pennsylvania 19106

Dear Mr. Phillips:

Thank you for your letter of June 4 requesting certain information concerning Sandy Hook Park, New Jersey.

As you probably know, Public Law 92-592, dated October 27, 1972 authorized the establishment of Gateway National Recreation Area within the states of New York and New Jersey. With the exception of approximately 90 acres of land which will have to be purchased, all other lands must be donated by the states of New York and New Jersey, the City of New York and the Department of Defense. Eventually Gateway will consist of approximately 26,000 acres of land and water. I am enclosing a copy of the Public Law and the related boundary maps.

At Sandy Hook, all of the lands, with the exception of 15 acres at the entrance to the park and the submerged lands, are owned by the Department of Defense. The Army has leased approximately 750 acres to New Jersey State who are presently operating a park at Sandy Hook. Sandy Hook will continue to operate as a State Park until such time as we receive operating funding authorization from the Congress which we anticipate by approximately November 1 of this year.

Information regarding the present operation may be obtained by writing Mr. Frank Guidotti, Assistant Chief, Bureau of Parks, P.O. Box 1420, Trenton, New Jersey 08625.

As for future plans and schedules, your request at this time is premature. I can only say that our Master Plan Team is scheduled to complete the master plan for all of Gateway by the end of this calendar year, and we do not anticipate any major development until, at the earliest, fiscal year 1975. I am sending a copy of your letter to our Planning Team Captain, Mr. Tedd McCann for future

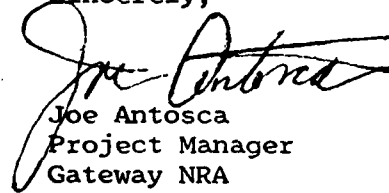


Let's Clean Up America For Our 200th Birthday

reference. The legislation does call for the expenditure of approximately 93 million dollars for the development of Gateway.

We shall be looking forward to meetings with you in the future as our planning and development materializes.

Sincerely,



Joe Antosca
Project Manager
Gateway NRA

Enclosures