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COESAM/PDFP-93/005

DETAILED PROJECT REPORT

EMERGENCY SHORELINE PROTECTION FOR PUBLIC FACILITIES

Dauphin Island Shoreline, Alabama

US Army Corps of Engineers
Mobile District

MAY 1993

DAUPHIN ISLAND SHORELINE, ALABAMA

SECTION 14
DETAILED PROJECT REPORT
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DAUPHIN ISLAND SHORELINE, ALABAMA

SECTION 14
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GENERAL

1. Study Authority. This report is submitted under the authority of Section 14 of the Flood Control Act of 1946, as amended. The amended section states:

> "The Secretary of Army is hereby authorized to allot from any appropriation heretofore or hereafter made for flood control, not to exceed $12,500,000 per year, for the construction, repair, restoration, and modification of emergency streambank and shoreline protection works to prevent damage to highways, bridge approaches, and public works, churches, hospitals, schools and other non-profit public services when in the opinion of the Chief of Engineers such work is advisable. Provided, that not more than $500,000 shall be allotted for this purpose at any single locality from the appropriations for any one fiscal year."

The investigation was initiated under this authority in response to earnest requests by the Dauphin Island Park and Beach Board (DIPBB).

2. Study Purpose and Scope. The purpose of the study was to develop an economically feasible and environmentally acceptable solution to the shoreline erosion emergency at the public use area (the "Main Beach Park") about 3 miles west of Fort Gaines on Dauphin Island, Alabama. A vicinity map of the proposed project area is shown on Plate 1.

3. Prior Studies. There have been no prior studies or reports on this particular problem by the Corps of Engineers. The problem area was included, however, in the FEASIBILITY REPORT FOR MOBILE COUNTY, ALABAMA (*Including Dauphin Island*), BEACH EROSION CONTROL AND HURRICANE PROTECTION dated September 1978. The sole recommendation in that report was for littoral zone placement near Dauphin Island of suitable material dredged during maintenance of the Mobile Harbor ship channel. That report was reviewed by the South Atlantic Division office and returned for revision. SAD indicated that revisions to the Mobile Harbor navigation project should be addressed in studies of that project. The beach protection report was not revised and resubmitted because there was no local interest at that time.

4. Dr. Scott Douglass is a professor of Civil Engineering at the University of South Alabama with a background in coastal

engineering. He has investigated, with student assistance, the erosion on Dauphin Island as consultant to the Alabama Department of Economic and Community Affairs, Coastal Programs Office and prepared two reports. The first report was SUMMARY OF EXISTING COASTAL ENGINEERING DATA FOR DAUPHIN ISLAND, ALABAMA, dated January 1991. The second was COASTAL PROCESSES OF DAUPHIN ISLAND, ALABAMA, dated February 25, 1992. (Scott L. Douglass & Daniel R. Haubner, College of Engineering Report No. 92-1, University of South Alabama, Mobile, Alabama.) That report had several conclusions indicating that Corps activities in the area may have contributed to the overall erosion problem, but none that attributed the problem at the main beach park to those activities.

5. Dr. George M. Lamb, Department of Geology and Geography, University of South Alabama, Mobile, Alabama, presented a paper, COASTLINE DEVELOPMENT AND CHANGE IN ALABAMA AND THE FLORIDA PANHANDLE, to the Gulf Coast Association of Geological Societies which was published in their Transactions, Volume XXXVII, 1987. That paper briefly discussed the cyclical nature of erosion on Dauphin Island and attributed the recent trend to changes in the offshore barrier made by Hurricane Frederic.

6. The Geological Survey of Alabama Information Series 50, SHORELINES AND BATHYMETRIC CHANGES IN THE COASTAL AREA OF ALABAMA - A REMOTE SENSING APPROACH, published in 1976, has shoreline change information for this entire region of the state.

7. A report, BEACH EROSION INTERPRETATION AND RECOMMENDED REMEDIAL MEASURES AT DAUPHIN ISLAND, ALABAMA, 27 December 1973, was prepared for the Shell Oil Company by Dr. Robert Dean of the University of Florida, acting as a private consultant. Shell Oil once owned property in the vicinity of the Isle Dauphine Club which was experiencing erosion at that time. Dean's report recommended a series of adjustable groins at the erosion site which were never constructed. Shell sold the property rather than attempt to cope with the erosion.

PLAN FORMULATION

ASSESSMENT OF WATER RELATED PROBLEMS AND OPPORTUNITIES

8. Description of Study Area. Mobile County is located in southwest Alabama and is one of the two Alabama coastal counties. Dauphin Island lies about 4 miles south of the county mainland. It is the easternmost of the chain of offshore islands that form the southern boundary of Mississippi Sound. The island is about 15 miles long and about a mile wide at its widest point. The gulf shoreline of the island generally has a broad, well-developed beach comprised mostly of white quartz sand. The eastern Mississippi Sound side is generally marsh with the

western spit having a narrow beach. Dauphin Island is connected to the mainland by a highway bridge which was constructed in 1954. In 1979 Hurricane Frederic destroyed that bridge and it was replaced by an entirely new bridge. The island has a population of 826 permanent residents which increases to about 1200 during the summer. In January 1988 the Town of Dauphin Island was incorporated to govern the island. The DIPBB maintains and operates a large public recreation area, the Main Beach Park. Public use facilities at this park included a beach, a fishing pier, three pavilions, a bath house with restrooms and outside showers, a large parking area and other amenities. These facilities have a total current value estimated at $600,000. This park is about 3 miles west of Fort Gaines and about 1 mile west of the bridge street intersection.

9. Historical Background. Dauphin Island is a gulf coast barrier island with a long history of shoreline erosion, accretion, and hurricane damage. The earliest maps show Dauphin Island and Petit Bois Island connected around 1717. Later the two islands were separated, probably by a hurricane. Dauphin Island was completely breached by a hurricane between 1909 and 1917. That breach was not shown on maps as filled until 1942. The island was again breached by a hurricane in September 1948. March 1950 aerial photographs showed it was rejoined. Hurricane Frederic in 1979 caused massive washover on the west end but a complete breach did not occur. Shoreline change maps for the period 1942 to 1974 show gulf shoreline erosion rates of about 6 feet per year. Accretion of the west end between 1917 and 1974 added almost 2 miles of gulf shoreline to the island.

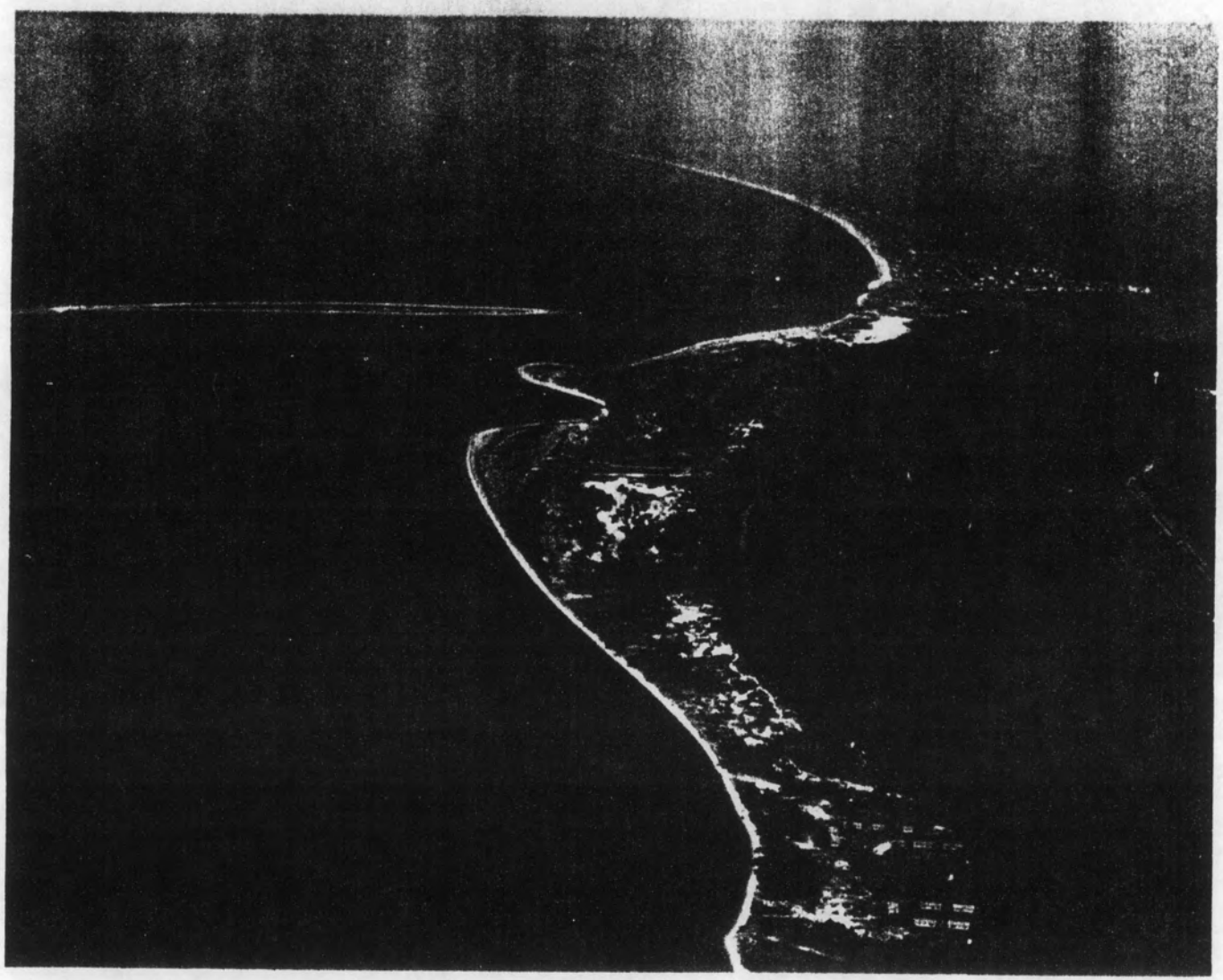
10. Existing Conditions. The ebb tidal shoal complex south of Dauphin Island maintains one or more ephemeral islands that seem to be simply visible portions of the shoal. The northward migration of one of these islands, Pelican Island, has pushed a major tidal channel, Pelican Passage, northward (See Figure 1). The movement of Pelican Passage is causing massive erosion on the south shore of Dauphin Island. This appears to be a natural process, as it has occurred in the past. Historically, at some point in its migration Pelican Island becomes breached, the channel migrates into the breach, and the severed tip moves onshore to restore the eroded portion of the main island. The present cycle has become conspicuous as the DIPBB Main Beach Park is now located in the area being eroded.

11. For the past several years this area has experienced shoreline erosion at an average rate of about 30 feet per year (ft/yr) in the vicinity of the pier. Given the overall process, we can reasonably assume that the entire offshore profile is moving shoreward. Calculations using this assumption result in a bottom recession, or deepening, of 3 ft/yr. During the 1990-91 period the critical reach eroded at rates ranging from 10 ft/yr east of the pier up to 50 ft/yr about 1500 feet to the west.

Until recently, the park had a substantial dune line. As a result of the present erosion trend, between one-third and one-half of the primary dune has been lost and the gulf face of the dune is being eroded.

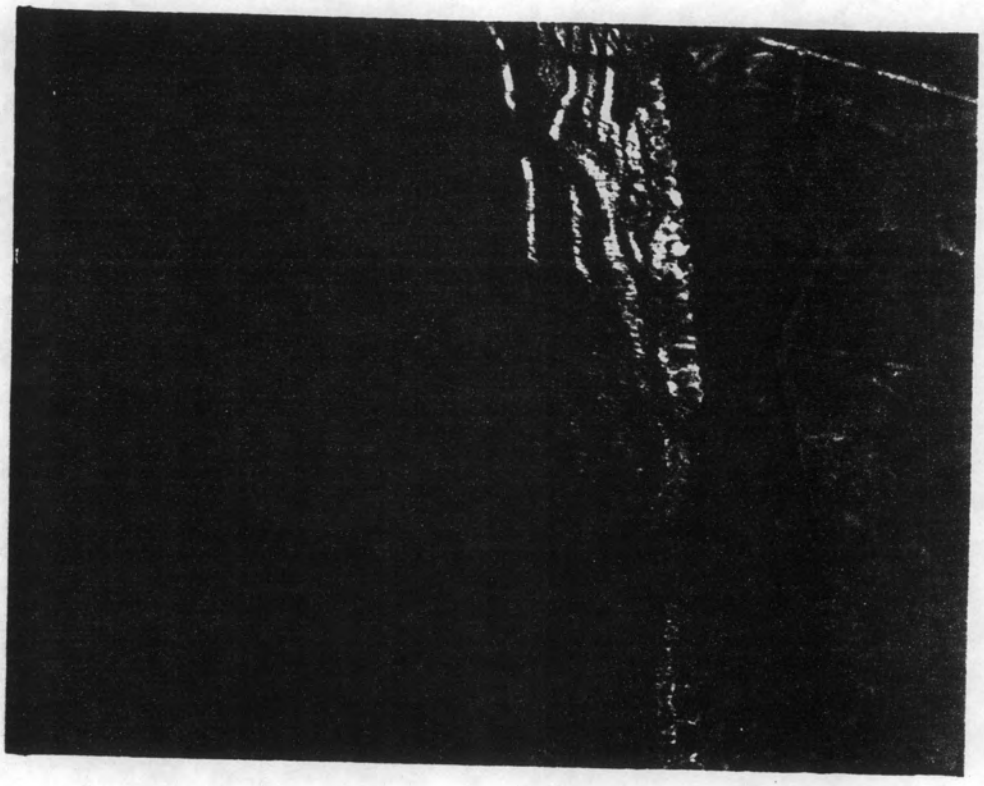
12. Prior to Hurricane Andrew's passage through the gulf, two of the three pavilions built on top of the original dune had one side each hanging over an erosion scarp. After Andrew passed through the Gulf of Mexico late in August 1992, the scarp was behind those two pavilions (See Figure 2). The bath house a short distance from the pavilions was endangered but did not stick out over the beach before Andrew. Now the gulf edge is out over the beach and the crest of the dune is obviously at the rear of the structure. The remaining boardwalk between the bath house and the pavilions is only 10 to 12 feet from the erosion scarp at several places. The DIPBB had to close these facilities as they now pose a serious safety hazard. The fishing pier was reconstructed after destruction by Hurricane Frederic in September 1979. At that time it had about 150 feet of the landward end over dry beach. Now the waterline is at the landward end of the pier. We believe that without protection the DIPBB will have no other recourse than to abandon some uses of the park. Continued use of the fishing pier will require modifications to insure safety. The fishing pier is a major source of revenue for the DIPBB and they have maintained the pier and part to the best of their financial capability. The present accelerated erosion has exceeded their capacity to cope, however.

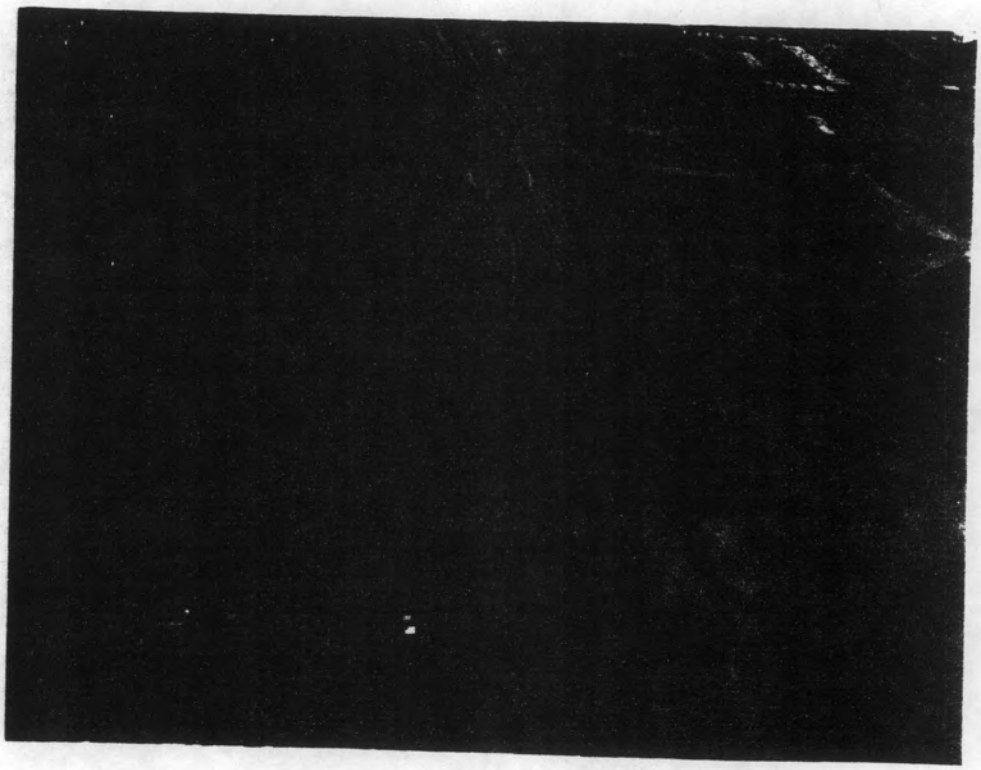
13. Sometime shortly before 1917 the island was breached by a hurricane. This breach was about 5½ miles wide and included the park area. The most critical place for a breach in this general area appears to be west of the fishing pier where the rate of erosion is about 50 ft/yr. The island here has an effective width of only about 1000 feet because a canal has been dredged into the Mississippi Sound shoreline. The distance to the street, which is the only road traffic access to the entire west end past this point, is only about 600 feet. While the present rate of erosion, if it continues, could have serious consequences for the island, that problem is beyond the scope of this investigation. The 1981 report on Hurricane Frederick shows a 100-foot post-storm beach recession at this location. Another storm producing erosion of this magnitude would not significantly change the length of time required for erosion to breach the island. If, however, a hurricane were to complete the erosion of the dune remnant (or occur after it has eroded away) massive overwash could occur here, with complete breaching a very real possibility. A massive shoreline loss would destroy the remaining structures in the park and, probably, the nearby school, while a complete breach would result in the loss of the street, several businesses, and an indefinite number of residences.



AERIAL VIEW OF PROBLEM AREA AT MAIN BEACH PARK

FIGURE 1





POST HURRICANE ANDREW SHORELINE EROSION

FIGURE 2

14. Future Without-Project Condition. The loss and/or removal of the two pavilions now fronting the dune is imminent and access to them has been blocked. The boardwalk connecting the pavilions to the main dune stairway will be destroyed in a short time. Also the bath house building has been boarded up and public entry barred. (Recently DIPBB recognized the need and reopened the bath house. It is inspected daily to insure continued safety.) The piling in the most landward section of the fishing pier (the one originally constructed over dry beach) do not have sufficient penetration to remain secure as bottom recession continues. We estimate that by the end of 1993 those piling will no longer provide sufficient support for safety and the pier will have to be closed. By the end of 1994 the entire pier will be endangered.

15. Reconstructing the fishing pier to lengthen its life was considered under the without-project condition. The pier is supported on pile bents. The piling in the bents increase in length as the water depth increases. As the bottom erodes the unsupported piling length increases and pier stability decreases. To support the pier, longer piles, with greater penetration, are needed. We developed a plan for reconstructing the pier in place, initially. Longer piles would be driven at the gulf end of the pier and the piles now in place would be removed. Those piling would, in turn, be used to replace shorter piles further inshore and so on until all the present under length piling were replaced. This would cost an estimated $435,300 and would extend the life of the pier an additional 5 years. Assuming the present rate of erosion continued, the pier would have to be rebuilt in similar fashion at 5-year intervals. After the first reconstruction the increased water depth and piling penetration requirements would dictate that the pier begin to migrate landward with the shoreline. This could be done by removing the gulfward end, piling and all, using those piling to replace the shorter piling inshore as before, and finally adding on at the landward end with the shortest piling. We estimate that the cost for this process would be the same as the first reconstruction. Avoiding these costs was taken as the benefit to be realized for the proposed project. It might appear that this pier migration could continue indefinitely. In 15 years, however, assuming that erosion at this site continues at the same rate, the shoreline will have receded 450 feet, almost halfway through the island, and the greater erosion to the west will have already cut the road a short distance past the pier.

16. The preceding paragraphs describes conditions without significant storm activity. Any storm induced erosion would damage these structures in direct proportion to storm severity. A storm in this general vicinity which approached the tropical category would complete the destruction of the pavilions and associated boardwalk. A minor hurricane would cause the rapid destruction of the these structures along with the pier and

bath house. If the storm were severe enough to breach the dune remnant, the parking area and the school directly north of the park could be damaged also.

17. With-Project Condition. If the present process follows historical precedent, some time in the near future Pelican Island will be breached and Pelican Passage will divert through the breach. After that the beach will rapidly rebuild and erosion in this reach will revert to the norm for the general area. That erosion rate is on the order of 6 ft/yr as determined in our September 1978 report. If the destruction of pier and, possibly, the bath house can be delayed long enough for the natural process to reoccur, the park and any remaining and rebuilt facilities should survive indefinitely.

PLANNING OBJECTIVES AND CONSTRAINTS

18. The original objective was to protect the entire waterfront portion of the park from erosion damage. Restoring or preserving the beach was desirable, if practical, but protecting the structures was the highest priority. The major constraints were time and money. A Section 14 Reconnaissance/Detailed Project Report must be completed in 12 months. The problem at this site appeared to be serious, therefore, one objective was to perform the study within the 12-month period. There is a statutory limit of $500,000 for the total Federal cost on a Section 14 project. In addition, if the study cost exceeds $40,000 it must be cost shared with the local sponsor. In view of the expressed financial constraints on the DIPBB and absent a more financially capable sponsor, we would make every effort to keep study cost below $40,000.

ALTERNATIVE PLANS

19. Preliminary Alternative Evaluation. The justification for shoreline protection work under the Section 14 authority is the protection of public structures from damage or destruction. At study initiation, the total value of the park structures in danger was estimated to be $600,000. Using the present interest rate of 8¼ percent, that amount amortized over 50 years results in an average annual equivalent value of $50,500. Our original intent was to protect the entire park, therefore that value was used in many of the early evaluations. As the study developed, particularly with the passage of Hurricane Andrew and further damage at the park, it was apparent that it was not practical to try to protect the entire park. We felt, nonetheless, that these preliminary evaluations were valid and, therefore, these earlier alternatives were not updated or reevaluated. These earlier alternatives were all economically nonfeasible, usually by a wide margin.

20. No-Action describes the future condition that would result if no further action is taken to control damages by either local, State, or Federal interests. This alternative is the same as the Without-Project condition. The No-action alternative represents the baseline condition against which other alternatives are compared.

21. Beach Restoration. Replenishing the eroding beach was an immediately obvious possibility. An estimated 250,000 cubic yards of sand placed on the eroding beach would restore much of the eroded profile. We found that dredge plant size was restricted by the shallow waters of the offshore shoal. Considering borrowing sand from the gulf side of the delta at a depth where a 27-inch pipeline dredge could operate resulted in an estimated cost of about $700,000 resulting in an uneconomical option. Moreover, as our investigation proceeded and the high rate of erosion was considered, it was obvious that any sand placed on the beach without stopping the erosion process would be lost too fast to provide any lasting protection. It was suggested that it might be possible to increase the effective protection time by dredging the migrating end of Pelican Island for the sand. This would require a smaller dredge, which increased the unit cost, and it would only slow the migration, not stop it. That variation, therefore, was considered equally impractical and all restoration alternatives were dismissed.

22. Relocating Pelican Passage. Relocating Pelican Passage and including a massive renourishment of the eroded beach using part of the dredged material appeared to be a viable alternative that would reasonably assure that the present problem was solved for a long period. We felt strongly that a complete replacement of the present channel was the only option assured of success. Using bathymetry from available charts, we computed the cross sectional area of Pelican Passage. From those same charts, we estimated that 5,000,000 cubic yards of material would have to be dredged to construct a similar passage. The alignment selected was about 5000 feet offshore where there is presently an existing shallow channel through Pelican Island. Conceptually, a pilot channel would be dredged first and that material used to reconstruct the eroded beach and dune. Then the dredge would begin on the full sized channel, placing the dredged material in the existing passage to block the flow there. This procedure offered the possibility of a reduction in dredged material volume from current scour as the work progressed. The preliminary estimate of this cost for this work was about $7,000,000. Interest and amortization of that amount would be about $590,000 annually, resulting in a benefit/cost ratio of .09 using the benefit assumption above. In addition, Pelican Island is in private ownership. Since this alternative is not economically feasible, that complication was not investigated further. The plan was dropped from further consideration.

23. Relocating Park Structures. Moving park structures, particularly the pavilions, bath house, and associated boardwalks, away from the immediate danger was considered. Removing the 2 pavilions and rebuilding them at the rear of the remaining dune crest was estimated to cost about $100,000. The additional dune recession during Hurricane Andrew's passage which left the pavilions suspended in front of the dune removed their relocation from further consideration. Removing and rebuilding the bath house will be required in the next 1 to 2 years. That building could also be relocated to natural ground at the rear of the dune at an estimated cost of about $100,000. Modification of the fishing pier by extending the landward end and replacing the short piling was dropped after the bottom recession rate was computed. Under current policy, relocation is the responsibility of local interests. However, if the present rate of erosion continues, relocation would be merely a stopgap measure.

24. Geotube Shoreline Protection. Textile fabric tubes filled with sand have been used fairly successfully on an experimental basis in the Florida Panhandle. They were considered at this site as a possible quick and inexpensive solution. Investigation revealed that there was a significant difference between the study site and the sites where geotubes had been used. At the sites in Florida there was a plentiful supply of sand moving through the erosion site and the tubes trapped part of that sand, stabilizing the shoreline. We have found, however, that stress on the tube fabric resulting from differential erosion/accretion can result in a rupture, followed by rapid loss of fill. At the study site the evidence indicates that sand is moving only away from the site. In addition, the tubes would be exposed to the strong tidal currents moving through Pelican Passage. We believe that they would be more successful in a low wave energy environment without significant currents. Our assessment indicated that the tubes might not successfully arrest the erosion or protect the remaining structures at this specific location. Moreover, blocking sand movement here would probably have an adverse effect elsewhere.

25. Stone Erosion Control Structures. Originally minimal rock revetment was considered simply to arrest shoreline erosion and provide some protection for the base of the dune. As discussed above, we soon found any sort of "minimal" protection to be completely impractical. The plan at which we eventually arrived is discussed in detail below. In summary, however, it consists of heavy stone protection along the shoreline at the base of the pier and around the bath house, plus a stone blanket beneath the entire length of the pier to arrest bottom recession. We estimate that this plan would protect the pier and bath house for about 15 years if the present rate of erosion continues. At the end of that period, the bottom would have receded to a depth that would no longer provide lateral support for the piling.

THE SELECTED PLAN

26. Plan Description. The plan selected would provide a heavy stone section along the beach to arrest shoreline erosion. Stone placement would begin 150 feet east of the pier centerline and extend 150 to 200 feet west of the centerline, depending on whether or not the bath house is still standing when the project is constructed. The trapezoidal section would be placed as far gulfward as practical to permit sand eroding from the dune to accumulate in its rear. A stone blanket 3 feet thick and 30 feet wide, 10 feet on either side of the pier bent piling, and beginning at the toe of the shore protection, would be placed beneath the full length of the pier to arrest the bottom recession that is lessening the support for the piling. All stone would be placed on geotextile filters. Construction, and future maintenance, would utilize a temporary board road placed through existing openings in the dune line.

27. Design. As indicated above, the selected plan consists of heavy stone protection along the shoreline and a stone blanket under the entire pier. This plan would arrest the erosion around the pier for a period of 15 years. We estimate that at the end of that period the surrounding bottom would have eroded to a depth where reliable support of the pier would no longer be available. The details of this plan are shown on plate 2. A heavy stone control structure would start 150 feet east of the pier and extend to 200 feet east of the pier to provide protection for the bath house. (If, at the time of construction, the bath house support has eroded to the extent that protecting it is no longer practical, the structure could be shortened to 150 feet with a commensurate cost savings.) Beginning at the shoreline structure, a 3-foot thick stone blanket would be laid on geotech fabric underneath the pier for its full length to arrest bottom erosion. The blanket would extend 10 feet out from the pile bents supporting the pier and completely around the pier perimeter. This would allow the blanket to settle around the edges as the bottom erodes and maintain the protection underneath the pier. This blanket would be 30 feet wide and 835 feet long. The total construction cost of this plan would be $461,100, as shown in Table 1.

28. The stone protection will be sound, durable, and of suitable quality to ensure permanence of the structure in the climate in which it is to be used. Potential sources of stone will be provided in the plans and specifications, and all material necessary to perform the work will be procured commercially. Stone size is based on an incident wave height of six (6) feet at the structures, and is in accordance with the methods outlined in the Shore Protection Manual and the Automated Coastal Engineering System. The stone used for protection of the shoreline will conform to the following gradation limits:

STONE WEIGHT (LBS)	PERCENT LIGHTER BY WEIGHT	APPROXIMATE SIZE (IN)
8,110	Max. Wt.	38-43
3,400	64-100	28-33
2,015	41-66	24-27
1,090	11-38	20-23
505	0-15	15-17

The stone for pier protection will conform to the following gradation limits:

STONE WEIGHT (LBS)	PERCENT LIGHTER BY WEIGHT	APPROXIMATE SIZE (IN)
2,400	Max. Wt.	25-29
1,000	64-100	19-22
600	42-66	16-18
325	10-38	13-15
150	0-15	10-12

29. Economic Analysis. As noted previously, the justification for shoreline protection work under the Section 14 authority is the protection of public structures from damage or destruction. Since study initiation, two of the park's three pavilions and their associated boardwalks have been lost and the bath house is presently at risk. The shoreline protection in the plan presently proposed was extended 150 feet westward to protect the existing bath house. The continued existence of the bath house, however, is highly dependent on a timely placement of this protection. Protecting the bath house was not, therefore, claimed as a benefit. In the event that structure is destroyed before project construction, the shoreline protection could be reduced by the 150 feet previously mentioned and the cost reduced by about $37,000.

30. As discussed above, a conservative estimate of the benefits resulting from the proposed work was taken as avoiding the cost of rebuilding the fishing pier at 5-year intervals. That cost, $435,000, is less than the estimated cost, $453,000, for building a new pier each time it is destroyed or removed. With an estimated project life of 15 years, these costs would be incurred at years 1, 6, and 11. Using the present interest rate of 8¼ percent, the cost of $435,000 was multiplied by the present worth factor for the years shown and amortized over 15 years to produce an average annual equivalent benefit of $101,400.

31. As has also been discussed, two of the three pavilions are no longer safe to use. In the very near future the bathhouse will be in a similar condition. Since these structures would

have to be rebuilt and/or relocated in any event, their value was treated as a sunk cost. The pavilions and bathhouse, therefore, were not considered in the benefit evaluation. In addition, recreational benefits were considered early in the analysis. These were later dropped from the analysis after we assumed that the repairs to the pier would be made during the off season and would not, therefore, have a major effect on recreation usage.

32. Real Estate Requirements. The plan proposed for emergency protection of the Dauphin Island shoreline has been reviewed by Real Estate personnel. The selected plan provides for a heavy riprap placement extending 150 feet east and 20 feet west of the Dauphin Island pier. A stone blanket will also be placed underneath the full length of the pier to arrest undermining of the pier piling. The entire length of shoreline to be protected by the construction is owned by the local sponsor. Therefore, this property cannot be included as a LERRD credit, since it would entail double benefits to the sponsor.

33. The local sponsor will receive LERRD credit for a one-acre temporary work area on property they presently own. This area is needed for staging equipment and supplies for the duration of the construction, estimated at approximately one year. The proposed area, located just off the beach at the pier, consists of a parking lot and playground area. A gross appraisal of the one-year estate indicated a value of $14,400, including a 20% contingency and excluding costs of restoring the area following construction.

34. No structures will be displaced by the project and 91-646 relocations are not anticipated. There are no known utilities which will require relocation. Most of the construction work will be accomplished by barge; access easements are not needed. Total real estate administrative costs are estimated at $2,800, including a 15% contingency. A staff appraiser completed the gross appraisal for the real estate required for the project, and a realty specialist prepared the administrative cost estimate and the real estate comments.

35. Estimated Costs. Table 1 below displays the estimated construction cost, annualized cost and annual benefits for the recommended plan.

36. Environmental Impacts and Coordination Requirements. An environmental assessment will be completed to address any potential environmental impacts of the proposed action. It is expected that no significant impact will be indicated. Water quality impacts associated with the proposed action will be addressed in a Section 404(b)1 evaluation report, prepared in accordance with Section 404(b)1 of the Clean Water Act (33 U.S.C. 1344). No significant water quality problems are anticipated. Water quality certification and coastal zone consistency will be

Table 1
DAUPHIN ISLAND SHORELINE, ALABAMA
CONSTRUCTION COSTS
Protect Pier and Bath House Only
(Oct 93 Cost Levels, I = 8 1/4%)

	Item	Unit	Unit Cost $	Quantity	Total Cost $
16	BANK STABILIZATION				
	PIER BLANKET				
	Stone	Tons	$35.00	5,442	$190,500
	Filter Cloth	Sq Yds	$2.75	3,481	$9,600
	SHORELINE PROTECTION				
	Stone	Tons	$42.29	3,017	$127,600
	Filter Cloth	Sq Yds	$2.03	2,625	$5,300
	Contingency				$50,000
	TOTAL CONSTRUCTION COST				$383,000
01	LANDS AND DAMAGES				$17,000
30	PLANNING, ENGINEERING AND DESIGN				$50,000
31	CONSTRUCTION MANAGEMENT				$30,000
	TOTAL PROJECT CONSTRUCTION COST				$480,000
	DISTRIBUTION OF PROJECT FIRST COSTS				
	FEDERAL SHARE-75% of Total Cost Up to $500,000 Max				$360,000
	NON-FEDERAL SHARE-25% of Total Cost with credit for LERRD (LERRD credit is $14,400)				$120,000
	TOTAL PROJECT CONSTRUCTION COST (CHECK TOTAL)				$480,100

ANNUAL CHARGES

Item	Amount $
FEDERAL ANNUAL CHARGES	
First Cost	$360,000
Interest During Construction	$15,200
Total Investment	$375,200
TOTAL FEDERAL CHARGES (I & A Only)	$44,500
NON-FEDERAL ANNUAL CHARGES	
First Cost	$120,000
Interest During Construction	$4,500
Total Investment	$124,500
Interest & Amortization	$14,800
Annual Maintenance	$3,100
TOTAL NON-FEDERAL CHARGES	$17,900
TOTAL ESTIMATED ANNUAL CHARGES	$62,400
AVERAGE ANNUAL EQUIVALENT BENEFITS	$101,400
BENEFIT/ COST RATIO	1.63
NET BENEFITS	$39,000

obtained from the Alabama Department of Environmental Management before construction is initiated. All other necessary environmental coordination activities will also be performed.

37. Cultural Resources. The proposed project area has not been surveyed for cultural resources. Coordination with the office of the Alabama State Historic Preservation Officer will be required but no significant problems are expected.

38. Cost Sharing. The Federal government will share 75 percent of the project first costs up to a maximum of $500,000 and the non-Federal sponsor will share 25 percent of those costs plus any amount over the Federal limit. The total amount includes lands, easements, rights-of-way, relocations, and disposal areas (LERRD). LERRD is the responsibility of the non-Federal sponsor and those costs will be credited towards the sponsor's 25 percent. Any difference between the LERRD costs ($14,400) and a 25 percent share ($120,000), must be made up by a cash contribution during construction, currently estimated to be $105,600. Operation and maintenance, also the non-Federal sponsor's responsibility, was estimated at $3,000 average annual equivalent for the shoreline protection structure. That amount was estimated by assuming a major rebuild of the shoreline protection at a cost of $82,220 in the last year of project life. That cost was brought to present worth and annualized to produce the $3,000 shown.

39. Financial Analysis: To Be Added. Letter of Intent is attached.

40. Construction Schedule. The project should be ready to advertise 30 days after approval and funding. The actual construction of the project should not require more that 120 days. As with all coastal work, however, such construction is highly weather dependent.

41. Conclusions. After review of all pertinent information and considering the effects of an emergency erosion control and shore protection project at the Main Beach Park on Dauphin Island, Alabama, I conclude that:

a. All practical alternatives have been examined in arriving at a recommended plan.

b. Adverse environmental impacts of the recommended plan have been considered and addressed.

c. The recommended plan is consistent with national policy, statutes, and administrative directives.

d. The recommended plan best serves the public interest.

42. Recommendation. I recommend that a Federal erosion control and shore protection project be implemented for the protection of the fishing pier at the Dauphin Island Main Beach Park.

37. The fully funded first cost of the recommended plan is estimated to be $481,000, of which the Federal cost would be $361,000 under traditional cost-sharing policies.

38. The recommendations contained herein reflect the information available at this time and current Department of the Army policies governing formulation of individual projects. They do not reflect program and budgeting priorities inherent in the formulation of a national Civil Works construction program nor the perspective of higher review levels within the Executive branch. Consequently, the recommendations may be modified before they are transmitted to higher authority as a proposal for authorization for implementation funding.

Robert H. Griffin
Colonel, Corps of Engineers
District Engineer

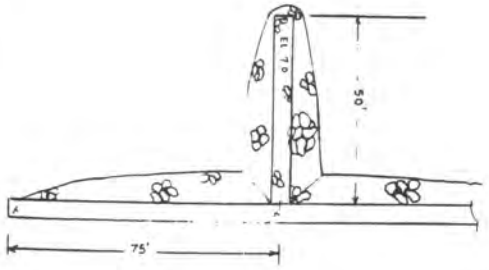
GENERAL MAP

Dauphin Island Shoreline Study

Plate 1

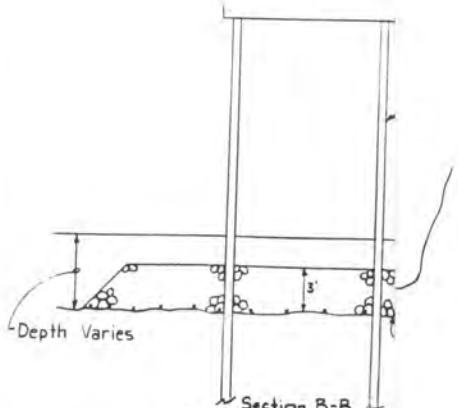
REVISIONS					
REVISION SYMBOL	NO. SYMB.	AMD. C.O.R.	DESCRIPTION	DATE	APPROVED

Depth Va



SECTION D-D
REVETMENT BOLSTER
SCALE: 1" = 20'

N



Section B-B
Pier Protectio
Dauphin Islan
Scale: 1" = 5'

200 0 200 400
scale feet

DESIGNED BY:	U.S. ARMY ENGINEER DISTRICT, MOBILE CORPS OF ENGINEERS MOBILE, ALA.	
DRAWN BY:	DAUPHIN ISLAND SHORELINE, ALABAMA SECTION 14 EROSION CONTROL PROJECT PROTECTION OF STRUCTURES AT MAIN BEACH PARK	
CHECKED BY:		
SUPERVISED BY:		
DR. REF. NO.	SPEC. NO. / FILE NO.	
	DRAWING NO.	
	SCALE: 1" = 200' DATE: 2-19-93	SHEET

ATTACHMENT A

Dauphin Island Park and Beach Board

P. O. Box 97 • Dauphin Island, Alabama 36528 • 205-861-3607

Elizabeth A. Gebsen · Chairman
John E. Smallwood · Member
Henderson Young · Member
Michael Henderson · Executive Director

April 12, 1993

N. D. McClure IV
Cheif, Planning and
Environmental Division
Department of the Army
Mobile District, Corps of Engineers
P. O. Box 2288
Mobile, Alabama 336628-001

Dear Cheif McClure,

The purpose of this letter is to assure your office we are doing all we can to provide the local match ($115,275.00) required as part of the Section 14 project protecting the Dauphin Island Pier and Beach bath house.

Although this effort has been ongoing since the earliest project cost were obtained, our situation has just recently become much more promising. I am now very optimistic these matching funds will be provided.

In conclusion, I'd like to thank your office again for doing all they can to assist us with these difficulties.

Yours truly,

Michael Henderson

MH:hg

ATTACHMENT

APPENDIX A

ENVIRONMENTAL ASSESSMENT

and

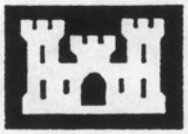
FINDING OF NO SIGNIFICANT IMPACT

STATEMENT OF FINDINGS

SHORELINE PROTECTION AND EROSION CONTROL
DAUPHIN ISLAND PARK AND BEACH BOARD
MAIN BEACH PARK
DAUPHIN ISLAND, ALABAMA

Prepared By

U.S. Army Corps of Engineers, Mobile District
Planning and Environmental Division
Environment and Resources Branch
Coastal Environment Section



12 July 1993

STATEMENT OF FINDINGS

PROPOSED SHORELINE PROTECTION AND EROSION CONTROL
DAUPHIN ISLAND PARK AND BEACH BOARD
MAIN BEACH PARK
DAUPHIN ISLAND, ALABAMA

WATERWAY AND LOCATION: Mobile Bay, Mobile County, Alabama.

As District Engineer, Mobile District, U.S. Army Corps of Engineers, it is my duty in the role of responsible Federal officer to review and evaluate, in light of overall public interest and the stated views of other interested agencies and the concerned public, the environmental effects of this activity.

My evaluation and findings are as follows:

I. Description of the Proposed Action for Which these Findings are Made.

The proposed action would be implemented under the authority of Section 14 of the Flood Control Act of 1946 (Public Law 79-526), as amended. Section 14 provides authority for the Secretary of the Army to undertake emergency measures to prevent erosion damages to endangered highways, public works, and non-profit public facilities.

The proposed action is the protection of Dauphin Island Park and Beach Board pier and Main Beach Park facilities. The protection would be accomplished by the following two actions: 1) construction of a heavy stone section along the beach to arrest shoreline erosion; and, 2) placement of a stone blanket beneath the full length of the pier to arrest bottom recession that is reducing the support for the pier piling. Generally, the work requires that the existing shoreline be armored for a distance of 150 feet east of the pier and 200 feet west of the pier with approximately 2,625 square yards of geotextile filter fabric and 3,017 tons of stone. Protection of the pier would require placement of approximately 3,481 square yards of geotextile filter fabric and 5,442 tons of stone.

It is anticipated that all work would be conducted via land-based crane. Stone would arrive at Dauphin Island via barge and would be stockpiled on the east end of the island. Transport of the stone to the project site would occur by truck.

II. Results of Coordination.

The proposed action was circulated on a 30-day public notice. Public Notice No. FP93-DI08-3 (Appendix A) was circulated with Federal, State, local agencies and other members of the interested public on May 7, 1993.

a. By letter dated April 21, 1993 (Appendix B, Enclosure B-1) coordination required by Section 7 of the Endangered Species Act was initiated with the U.S. Department of the Interior, Fish and Wildlife Service (**FWS**). A list of Federally-protected species in the project area under the purview of the FWS was provided during the Section 7 coordination for the Section 14 activities at the east end of Dauphin Island (Appendix B, Enclosure B-1). By letter dated May 3, 1993 (Appendix B, Enclosure B-2) the FWS concurred with our "no effect" determination and concluded Section 7 coordination.

b. By letter dated April 21, 1993 (Appendix B, Enclosure B-3) coordination required by Section 7 of the Endangered Species Act was initiated with the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (**NMFS**), Protected Species Management Branch. The list of Federally-protected species in the project area under the purview of the NMFS was provided during the Section 7 coordination for the Section 14 activities on the east end of the island (Appendix B, Enclosure B-3). By letter dated May 14, 1993 (Appendix B, Enclosure B-4) the NMFS concurred with the Mobile District "no effect" determination and concluded Section 7 coordination.

c. By letter dated April 14, 1993 (Appendix B, Enclosure B-5) the Mobile District initiated coordination with the State of Alabama, Alabama Historical Commission, State Historic Preservation Officer (**SHPO**). The SHPO concurred with the proposed action by signature dated May 5, 1993 (Appendix B, Enclosure B-6). The SHPO provided a "no effect" determination by letter dated May 24, 1993 (Appendix B, Enclosure B-7).

d. By facsimile transmittal dated April 19, 1993 (Appendix B, Enclosure B-8) a copy of Public Notice FP93-DI08-3 was provided to the State of Alabama, Department of Environmental Management (**ADEM**) wherein water quality certification and coastal zone consistency were requested. A letter was received from the ADEM, dated April 27, 1993 (Appendix B, Enclosure B-9) wherein several administrative issues pertaining to structural erosion control measures were raised. By letter dated May 3, 1993 (Appendix B, Enclosure B-10), the Mobile District responded to the issues. By letter dated June 29, 1993 (Appendix B, Enclosure B-11) ADEM issued water quality certification and coastal zone consistency. In the certification letter, the ADEM requested that aerial photography of the shoreline one mile on either side of the project be provided upon project completion. The photographs are requested to have surveyed points identified on the photographs the purpose of which would be to facilitate assessing future shoreline change.

f. By letter dated May 5, 1993 (Appendix B, Enclosure B-12) coordination of the EA, Finding of No Significant Impact (**FONSI**) and Section 404 (b)(1) evaluation report for the proposed action was initiated with the U.S. Environmental Protection Agency (**EPA**), Region IV. By letter dated May 24, 1993 (Appendix B, Enclosure B-13) coordination was completed with the U.S. Environmental Protection Agency. The EPA concurred with the proposed activity.

g. By letter dated May 5, 1993 (Appendix B, Enclosure B-12) coordination of the EA, FONSI and Section 404 (b)(1) evaluation report for the proposed action was initiated with the FWS for review and comment. By phone conversation with Mr. Larry Goldman, Field Supervisor, Daphne Field Office, FWS, dated July 12, 1993 the FWS indicated that no written comments on the EA and Section 404 (b)(1) would be provided. Mr. Goldman concurred with the proposed Finding of No Significant Impact. Also, a "no objection" letter, dated May 13, 1993 (Appendix B, Enclosure B-14), was received from the FWS concerning the public notice.

h. By letter dated May 5, 1993 (Appendix B, Enclosure B-12) coordination of the EA, FONSI and Section 404 (b)(1) evaluation report for the proposed action was initiated with the NMFS for review and comment. While no comments were received from the NMFS concerning the EA and Section 404 (b)(1) evaluation report, a letter, dated June 7, 1993 (Appendix B, Enclosure B-15) was received from the NMFS which indicated "no objection" with the proposed action.

i. By facsimile transmittal dated June 16, 1993 (Appendix B, Enclosure B-16) Dr. George Crozier, Executive Director of the Marine Environmental Sciences Consortium (**MESC**), Dauphin Island Alabama, objected to the proposed action and suggested that the proposed design is inadequate and does not provide for the problem of downdrift worsening which occurs downdrift of the groin field on the east end. Furthermore, Dr. Crozier indicated concern that the proposed action did not contain some form of replenishment. By letter dated July 1, 1993 (Appendix B, Enclosure B-17) Mr. R. Douglas Nester, Acting Chief, PD-EC, with input from the coastal engineering element within PD-FP, addressed Dr. Crozier's concerns by clarifying that the proposed action is not comparable to that of a groin field and, therefore, is not anticipated to induce significant downdrift erosion. Since minimal erosion is expected, no requirement for replenishment is foreseen.

j. Potential hazardous, toxic, and radioactive waste (**HTRW**) considerations for the proposed action were addressed by the Mobile Districts' Hazardous/Toxic Waste and Environmental Support Section (PD-ES). As addressed in a November 16, 1992 memorandum (Appendix B, Enclosure B-18), PD-ES personnel conducted a site inspection on November 2, 1992 per the requirements of Engineer Regulation 1165-2-132, entitled, "Hazardous, Toxic, and Radioactive Waste Guidance for Civil Works Projects." No known HTRW concerns were identified within the confines of the project.

III. <u>Environmental Effects and Impacts</u>.

a. The environmental effects and impacts of the described action were addressed in the referenced documents and were coordinated with environmental agencies and the public.

b. A detailed evaluation of environmental concerns involved in the proposed project was prepared in accordance with Public Law 92-500, Section 404(b)(1) Guidelines and as promulgated by the EPA. The impacts discussed in the referenced environmental assessment and Section 404(b)(1) evaluation report (Appendix C) are minor. The life stages of aquatic life

and other wildlife would not be adversely affected. Significant adverse effects of aquatic ecosystem diversity, productivity and stability, and recreational, esthetic and economic values would not occur. No comments were received in response to the public notice which made it necessary to change the previously prepared Section 404(b)(1) evaluation report and environmental assessment.

c. The cumulative effects of this action upon the environment were considered and found to be insignificant.

d. The proposed action is in compliance with applicable laws and regulations regarding the protection of water and air resources, cultural resources, and fish and wildlife resources.

IV. Historical and Cultural Resources.

There are no cultural resources concerns connected with the proposed action. However, the proposed action has received appropriate investigation and coordination in compliance with applicable historic and archeological resource preservation laws and regulations.

V. Determination.

Based on the above assessment, the existing Section 404(b)(1) evaluation report, environmental assessment and analysis of all comments received, I have made the following determinations:

a. Feasible alternatives to the proposed action have been considered and none that are practicable will have less adverse impacts on the aquatic and semi-aquatic ecosystem.

b. There are no unacceptable environmental impacts on the aquatic and semi-aquatic ecosystem.

c. The construction will be accomplished under conditions which will minimize, to the extent practicable, adverse environmental effects on the aquatic and semi-aquatic ecosystem.

VI. Findings and Conclusions.

I therefore find that the proposed shoreline protection and erosion control project, Dauphin Island, Alabama, described herein, has been specified through the application of 404(b)(1) guidelines and all other applicable laws and regulations regarding the protection of water and air resources, cultural resources, and fish and wildlife resources.

After weighing all factors involved and considering the cumulative effects of the proposed action upon the environment, I have concluded that this project should proceed.

Date 27 JUL 93

Robert H. Griffin
Colonel, Corps of Engineers
District Engineer

APPENDIX A

JOINT PUBLIC NOTICE

DEPARTMENT OF THE ARMY
MOBILE DISTRICT CORPS OF ENGINEERS
P O BOX 2288
MOBILE, ALABAMA 36628-0001

REPLY TO
ATTENTION OF

CESAM-PD-EC
PUBLIC NOTICE NO. FP93-DI08-3 7 May 1993

JOINT PUBLIC NOTICE
U.S. ARMY CORPS OF ENGINEERS
AND
ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

PROPOSED SHORELINE PROTECTION AND EROSION CONTROL
DAUPHIN ISLAND PARK AND BEACH BOARD
MAIN BEACH PARK
MOBILE COUNTY, ALABAMA

A FEDERALLY AUTHORIZED PROJECT

Interested persons are hereby notified that the United States Army Corps of Engineers, Mobile District proposes to protect a portion of the shoreline in the vicinity of the Dauphin Island Park and Beach Board structures on Dauphin Island, Alabama. The proposed project area is shown on Figures 1 and 2.

This Public Notice is issued in accordance with the rules and regulations published in the Federal Register on April 26, 1988. These regulations provide for the review of dredge and fill programs for Federally authorized projects under the Clean Water Act (33 U.S.C. 1344); the Marine Protection Research and Sanctuaries Act (33 U.S.C. 1413); and consistent with the requirements of the following related Federal laws and Executive Orders: Section 306 and 307(c) of the Coastal Zone Management Act of 1976 (16 U.S.C. 1456(c)); the National Environmental Policy Act (42 U.S.C. 4341 et seq.) as amended; the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) as amended; the Endangered Species Act (16 U.S.C. 1531 et seq.); the National Historic Preservation Act of 1966 (16 U.S.C. 407a et seq.), as amended; the Estuary Protection Act (16 U.S.C. 1221); the Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.), as amended; the Water Resources Development Act of 1976 (16 U.S.C. 1456(c)), as amended; Executive Order 11593, Protection and Enhancement of the Cultural Environment, May 13, 1971 (36 FR 8921, May 15, 1971); Executive Order 11988, Floodplain Management, May 24, 1977 (42 FR 26951, May 25, 1977); Executive Order 11990, Protection of Wetlands, May 24, 1977 (42 FR 26961, May 25, 1977);

Executive Order 12372, Intergovernmental Review of Federal Programs, July 14, 1982, (47 FR 3959, July 16, 1982); and Executive Order 12114, Environmental Effects Abroad of Major Federal Actions, January 4, 1979.

These laws are applied whenever dredged or fill materials may enter navigable waters. We also request the recipient of this notice to review the proposed action as it may impact on water quality, relative to the requirements of Section 404(b)(1) of the Clean Water Act. We also ask your comment on any other potential impact.

WATERWAY AND LOCATION: Mobile Bay, Mobile County, Alabama and the Gulf of Mexico.

DESCRIPTION OF THE PROPOSED ACTION: The proposed action would be implemented under the authority of Section 14 of the Flood Control Act of 1946 (Public Law 79-526), as amended. Section 14 provides authority for the Secretary of the Army to undertake emergency measures to prevent erosion damages to endangered highways, public works, and non-profit public facilities. In addition to major highway systems of national importance, eligible highways include principal highways, streets, and roads of significant importance to the community, such as arterial streets, important access routes to other communities and adjacent settlements, as well as roads designated as primary farm to market roads.

The proposed action is the protection of the shoreline in the vicinity of the Dauphin Island Park Beach Board pier and bath house facilities on Dauphin Island, Alabama.

The proposed action, as shown in Figure 2, would provide a heavy stone section along the beach to arrest shoreline erosion. Stone placement would begin 150 feet east of the pier centerline and extend 200 feet west of the centerline, depending on whether or not the bath house exists when the project is constructed. The trapezoidal-shaped stone section would be placed as far gulfward as practical to permit sand accumulation landward of the structure. Beginning at the toe of the shore protection, a stone blanket three feet thick, 30 feet wide, and 10 feet on either side of the pier piling would be placed beneath the full length of the pier to arrest the bottom recession that is reducing the support for the piling. All stone would be placed on geotextile filters. Construction, and future maintenance, would utilize a temporary board road placed through existing openings in the dune line.

WATER QUALITY CERTIFICATION: Pursuant to the Clean Water Act, state water quality certification is required for the proposed action as described above. Water quality certification for a one-time action is being requested from the Alabama Department of Environmental Management (ADEM).

COASTAL ZONE CONSISTENCY: Pursuant to the Coastal Zone Management Act, coastal area management program consistency has been requested from ADEM. Upon completion of the required comment period and ADEM's review, a decision relative to certification will be made.

USE BY OTHERS: The proposed action for the Dauphin Island Park and Beach Board Main Beach Park Shoreline Protection and Erosion Control project is not expected to cause any significant land use changes in the adjacent areas. Use of waters in the vicinity of the proposed project area includes fishing, shrimping, and recreational boating.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) CONSIDERATIONS: In accordance with the requirements of the National Environmental Policy Act, an environmental assessment of the proposed work areas identified in this public notice indicates that an Environmental Impact Statement is not required to address the proposed protection of the Dauphin Island Park and Beach Board pier and bathhouse. The assessment will be finalized and the final determination of EIS requirement will be made upon completion of the environmental coordination. The environmental assessment and other NEPA documents are available for review in the Mobile District Office.

SECTION 404(b)(1) EVALUATION REPORT: Water quality impacts associated with the proposed action have been addressed in an evaluation report prepared in accordance with the guidelines promulgated by the EPA under Section 404(b)(1) of the Clean Water Act. A preliminary Section 404(b)(1) evaluation for the proposed areas has been prepared and is available in the Mobile District Office upon request. This evaluation will be finalized upon completion of the coordination of this public notice.

ENDANGERED SPECIES: Several species listed by the U.S Department of Interior and U.S. Department of Commerce as endangered or threatened are occasional visitors to the vicinity of the project area. None would be effected by the proposed action. Coordination with National Marine Fisheries Service and Fish and Wildlife Service, as required under Section 7 of the Endangered Species Act has been initiated and is ongoing.

CULTURAL RESOURCE CONSIDERATIONS: In compliance with the National Historic Preservation Act, and other authorities, the National Register of Historic Places has been consulted and there are no properties listed on or eligible for inclusion on the National Register that would be affected by the proposed work. The proposed action is being coordinated with the Alabama State Historic Preservation Officer.

FARMLAND PROTECTION POLICY ACT CONSIDERATIONS: The applicable portions of this project are being coordinated under the provisions of the act.

EVALUATION: The decision whether to proceed with the proposed action will be based on evaluating the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which may be reasonably expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. The proposed action will proceed unless it is found to be contrary to the overall public interest.

COORDINATION: Among the agencies receiving copies of this public notice are:

Alabama Department of Conservation and Natural Resources
Alabama Department of Environmental Management
Alabama State Historic Preservation Officer
Commander, Eighth Coast Guard District
Gulf of Mexico Fishery Management Council
Regional Director, U.S. Department of the Interior, National Park Service
Regional Director, U.S. Department of Commerce, National Marine Fisheries Service
U.S. Department of Agriculture, Soil Conservation Service
U.S. Environmental Protection Agency, Region IV
U.S. Department of the Interior, Fish and Wildlife Service

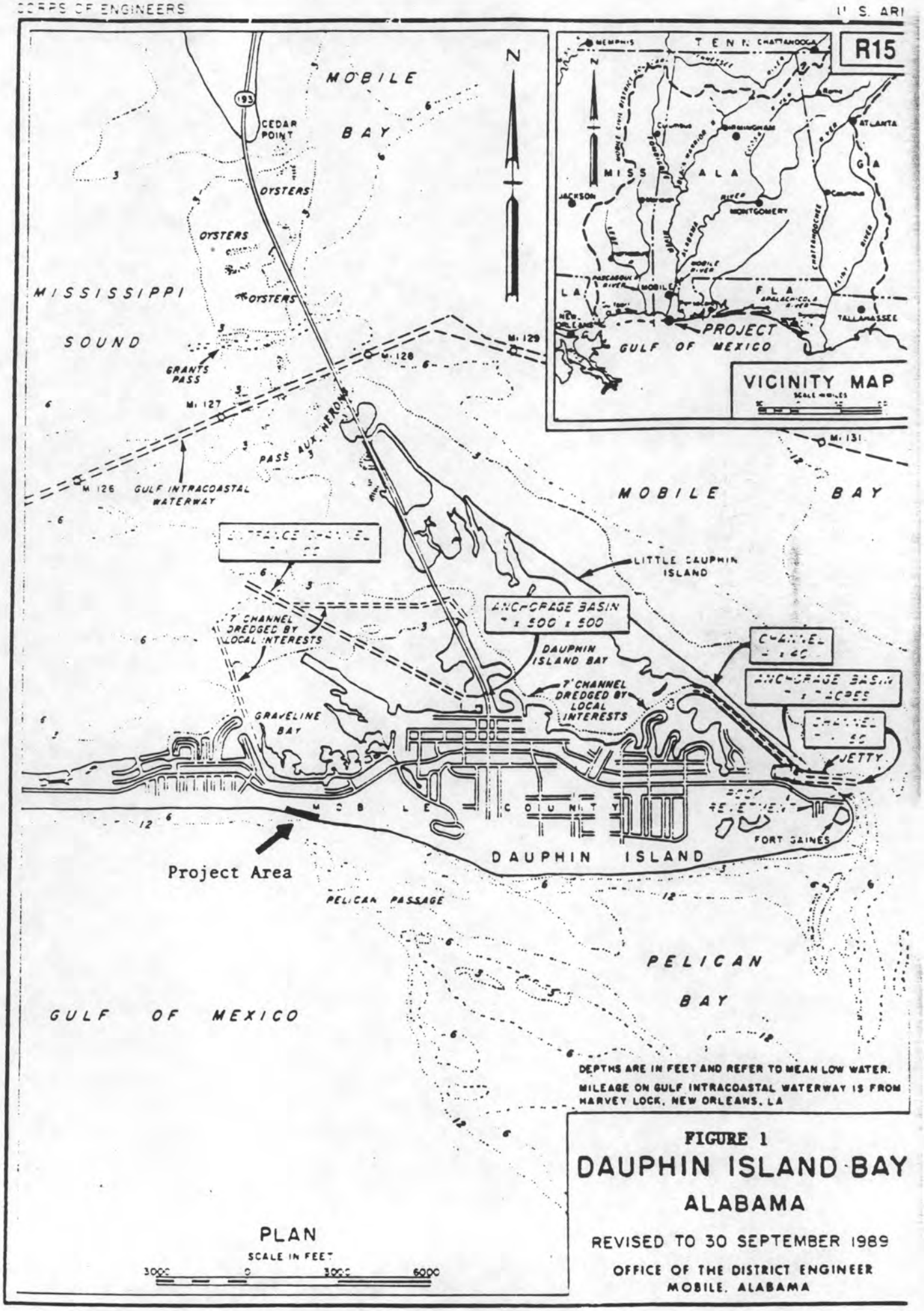
Other Federal, State, and local organizations, and United States Senators and Representatives of Alabama are provided copies of this notice and are asked to participate in coordinating this proposed action.

You are requested to communicate the information contained in this notice to any other parties who may have an interest in the proposed action.

CORRESPONDENCE: Any person who has an interest which may be affected by this proposed activity may request a public hearing. Any comments or request for hearing must clearly set forth the interests which may be affected and the manner in which the interest may be affected.

Correspondence concerning this public notice should refer to Public Notice No. FP93-DI08-3 and should be directed to the District Engineer, U.S. Army Engineer District, Mobile, P.O. Box 2288, Mobile, Alabama 36628-0001, ATTN: CESAM-PD-EC in time to be received prior to June 7, 1993. Mr. R. Douglas Nester, telephone number 205/694-3854, may be contacted for additional information.

for N.D. McClure
MOBILE DISTRICT
U.S. Army Corps of
Engineers



DEPTHS ARE IN FEET AND REFER TO MEAN LOW WATER.

MILEAGE ON GULF INTRACOASTAL WATERWAY IS FROM HARVEY LOCK, NEW ORLEANS, LA

FIGURE 1

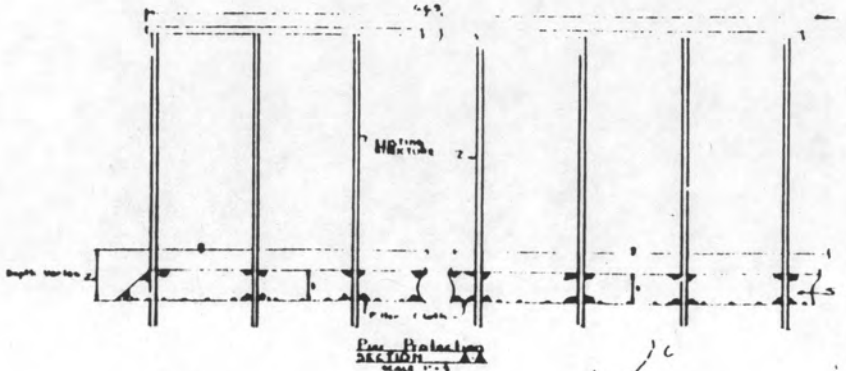
DAUPHIN ISLAND BAY
ALABAMA

REVISED TO 30 SEPTEMBER 1989

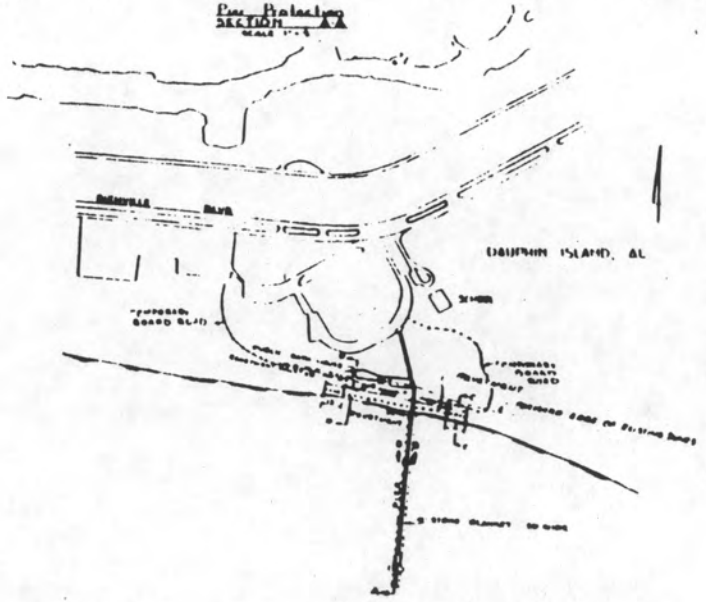
OFFICE OF THE DISTRICT ENGINEER
MOBILE, ALABAMA

CORPS OF ENGR

U S ARMY

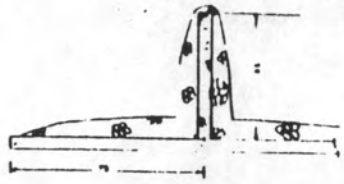


Pipe Protection
SECTION

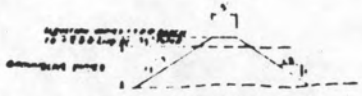


DAUPHIN ISLAND, AL

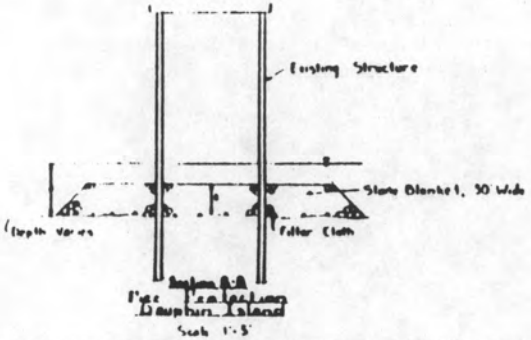
GULF OF MEXICO



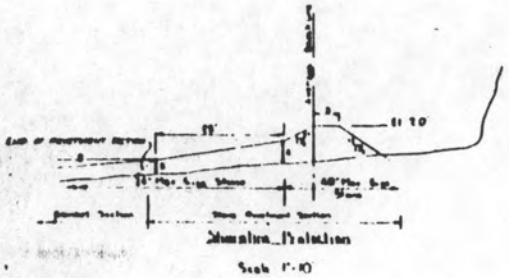
SECTION D-D
REVETMENT BOULDER



SECTION C-C
TAPERED END SECTION



Pipe Protection
Dauphin Island
Scale 1"=5'



Shoreline Protection
Scale 1"=10'

FIGURE 2

APPENDIX B

COORDINATION LETTERS

April 21, 1993

Coastal Environment
Section

U.S. Department of the Interior
Fish and Wildlife Service
Mr. Larry Goldman, Field Supervisor
Daphne Field Office
Post Office Drawer 1190
Daphne, Alabama 36526

Dear Mr. Goldman:

Please reference the April 19, 1993 telephone conversation between Mr. R. Douglas Nester, of my staff, and Ms. Celeste South concerning coordination under Section 7 of the Endangered Species Act, and a list of Federally-protected species which may be impacted by a proposed shoreline protection project near the Dauphin Island Park and Beach Board (DIPBB) Main Beach Park.

The proposed action is the shoreline protection of the DIPBB public facilities located on the south shore of Dauphin Island approximately 3.5 miles west of the east end. A more detailed description of the proposed work is provided in Enclosure 1.

After discussion of the action with Ms. South and in the interest of time, we have chosen to utilize the list of Federally-protected species under your purview which was provided for the erosion protection action at the east end of Dauphin Island. A copy of the November 3, 1992 letter by which the list was transmitted, is provided for your ease of reference (Enclosure 2).

According to the November 3, 1993 list, two Federally-listed species may occur in the east end project area: the piping plover (threatened) and the loggerhead sea turtle (endangered). The piping plover winters along the gulf coast, including Little Dauphin Island, and the loggerhead sea turtle nests on barrier islands such as Dauphin Island between the months of April and October.

Previous Section 7 coordination activities involving the piping plover indicate that the species prefers the mud flat habitat located in the vicinity of Little Dauphin Island. Based on this information, we believe that the piping plover would not be impacted by the proposed shoreline protection activities.

With respect to the loggerhead sea turtle, Mr. Nester contacted several persons knowledgeable of sea turtle activities in the project area. The contacts utilized in this instance were: Dr. Robert L. Shipp, Sea Turtle Stranding and Salvage Network Coordinator for the State of Alabama, Dr. John Dindo, Dauphin Island Sea Lab and Mr. Mark Van Hoose, State of Alabama, Department of Conservation and Natural Resources. All of the above indicate that the beach area east and west of the project area are utilized as nesting habitat. Past nesting activities have occurred on the beach in front the condominiums located approximately .75 miles east of the project area and at least one nesting has occurred on the beach in front of the Isle Dauphine Country Club, immediatley east of the project area. None of the above indicated that nesting had ever occurred in the project area.

Based on discussions with the sea turtle contacts and personal observations of the project area by the undersigned and my staff, suggests that suitable habitat for sea turtle nesting currently does not exist in the project area. Extensive shoreline and dune erosion in the project area would prohibit the likelihood of such activities.

In conclusion, we believe that the proposed action would have no effect on Federally-protected species under your purview. We would appreciate your concurrence with regard to this matter.

Should you have questions concerning our determination, please feel free to contact the undersigned or Mr. R. Douglas Nester at 694-4141 or 694-3854, respectively.

Sincerely,

Susan Ivester Rees
Chief, Coastal Environment
Section

Enclosures

PD-EC/Nester
PD-EC/Rees
PD-E/Mortician

Project Description

The plan selected would provide a heavy stone section along the beach to arrest shoreline erosion. Stone placement would begin 150 feet east of the Dauphin Island Park and Beach Board fishing pier centerline and extend approximately 200 feet west of the centerline, depending on whether or not the bath house is still standing when the project is constructed. The trapezoidal section would be placed as far gulfward as practical to permit sand eroding from the existing dune to accumulate in its rear. A stone blanket 3 feet thick and 30 feet wide, 10 feet on either side of the pier bent piling, and beginning at the toe of the shore protection, would be placed beneath the full length of the pier to arrest the bottom recession that is lessening the support for the piling. All stone would be placed on geotextile filters. Construction, and future maintenance, would utilize temporary board roads placed through existing openings in the dune line.

Design

As indicated above, the selected plan consists of heavy stone protection along the shoreline and a stone blanket under the entire pier. This plan would arrest the erosion around the pier for a period of 15 years. We estimate that at the end of that period the surrounding bottom would have eroded to a depth where reliable support of the pier would no longer be available. The details of this plan are shown on the attached figure. A heavy stone control structure would start 150 feet east of the pier and extend to 200 feet west of the pier to provide protection for the bath house. (If, at the time of construction, the bath house support has eroded to the extent that protecting it is no longer practical, the structure could be shortened by 150 feet). Beginning at the shoreline structure, a 3-foot thick stone blanket would be laid on geotextile fabric underneath the pier for its full length to arrest bottom erosion. The blanket would extend 10 feet out from the pile bents supporting the pier and completely around the pier perimeter. This would allow the blanket to settle around the edges as the bottom erodes and maintain the protection underneath the pier. This blanket would be 30 feet wide and 835 feet long.

The stone protection would be sound, durable, and of suitable quality to ensure permanence in the structure, and in the climate in which it is proposed for use. Potential sources of stone would be provided in the plans and specifications, and all material necessary to perform the work would be procured commercially. Stone size is based on an incident wave height of six (6) feet at the structures, and is in accordance with the methods outlined in the U.S. Army Corps of Engineers Shore Protection Manual and the Automated Coastal

Engineering System.

Stone used for shoreline protection would conform to the following gradation limits		
STONE WEIGHT (lbs)	**PERCENT LIGHTER** (by weight)	**APPROXIMATE SIZE** (in)
8,110	Max. Wt.	38-43
3,400	64-100	28-33
2,015	41-66	24-27
1,090	11-38	20-23
505	0-15	15-17
Stone for pier protection would conform to the following gradation limits		
STONE WEIGHT (lbs)	**PERCENT LIGHTER** (by weight)	**APPROXIMATE SIZE** (in)
2,400	Max. Wt.	25-29
1,000	64-100	19-22
600	42-66	16-18
325	10-38	13-15
150	0-15	10-12

United States Department of the Interior

FISH AND WILDLIFE SERVICE
P.O. Drawer 1190
Daphne, AL 36526

November 3, 1992

Ms. Susan Rees
Chief, Coastal Environment Section
Mobile District, Corps of Engineers
P.O. Box 2288
Mobile, Alabama 36628-0001

In Reply Refer To:
Log No. C4-3-93-014

Dear Ms. Rees:

This responds to your letter of October 7, 1992 concerning a proposal for the restoration of the seawall and finger groins at Ft. Gains in Mobile County, Alabama. We have reviewed the information you enclosed and have the following comments in accordance with the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

According to our records, two federally listed species may occur in the project area: the piping plover (threatened) and the loggerhead sea turtle (endangered). Potential impacts to either one of these species will be dependent upon where disposal occurs, if any. The piping plover winters along our Gulf coast including Little Dauphin Island, while the loggerhead sea turtle nests on barrier islands such as Dauphin Island between the months of April and October.

If you need further information regarding our concerns, please contact Celeste South at our office (Phone: 205/441-5181).

Sincerely yours,

Larry E. Goldman
Field Supervisor

PD-EC

United States Department of the Interior

TAKE PRIDE IN AMERICA

FISH AND WILDLIFE SERVICE
P.O. Drawer 1190
Daphne, AL 36526

SUSAN REES

May 3, 1993

District Engineer
U.S. Army Corps of Engineers
P.O. Box 2288
Mobile, Alabama 36628

Dear Sir:

This replies to an April 21, 1993 letter from Dr. Susan Ivester Rees, Chief, Coastal Environment Section, concerning a proposed shoreline protection project near the Dauphin Island Park and Beach Board (DIPBB) Main Beach park, Mobile County, Alabama. Placement of stone structures in an area both east and west of the pier, extending a length of 350 feet as well as 850 feet into the Gulf of Mexico (30 feet wide submerged) is envisioned at this time as the complete project.

The Corps of Engineers has concluded, based upon the information included in Dr. Rees' letter that the project would have no effect on either the loggerhead sea turtle or the piping plover. We concur with your determination.

Sincerely,

Larry E. Goldman
Field Supervisor

cc: EPA, Atlanta, GA
NMFS, Panama City, FL
ADCNR, Montgomery, AL
ADCNR, Spanish Fort, AL
ADCNR, Dauphin Island, AL
ADEM, Montgomery, AL
ADEM, Mobile, AL

April 21, 1993

Coastal Environment Section

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Protected Species Management Branch
ATTN: Dr. Terry Henwood
9450 Koger Boulevard
St. Petersburg, Florida 33702

Dear Dr. Henwood:

Please reference the April 20, 1993 telephone conversation between you and Mr. R. Douglas Nester, of my staff, concerning coordination under Section 7 of the Endangered Species Act, and a list of Federally-protected species which may be impacted by a proposed shoreline protection project near the Dauphin Island Park and Beach Board (DIPBB) Main Beach Park.

The proposed action is the shoreline protection of the DIPBB public facilities located on the south shore of Dauphin Island approximately 3.5 miles west of the east end. A more detailed description of the proposed work is provided in Enclosure 1.

Per your discussion of the action with Mr. Nester, we understand that the list of Federally-protected species under your purview which was provided for the erosion protection action at the east end of Dauphin Island would also be appropriate for this action. A copy of the October 16, 1992 letter by which the list was transmitted, is provided for your ease of reference (Enclosure 2).

According to the October 16, 1992 list, ten Federally-listed species are under your jurisdiction in the State of Alabama of which five species are whales and five species are sea turtles. Based on the shore-based nature of the action and the fact that all construction materials would be transported to the project site by truck, we do not anticipate any impacts to the five listed whales.

With respect to the sea turtles, Mr. Nester contacted several persons who are knowledgeable of sea turtle activities in the project area. The contacts utilized in this instance were: Dr. Robert L. Shipp, Sea Turtle Stranding and Salvage Network Coordinator for the State of Alabama, Dr. John Dindo, Dauphin Island Sea Lab and Mr. Mark Van Hoose, State of Alabama, Department of Conservation and Natural Resources. All of the above indicate that the beach area east and west of the project area are utilized as nesting habitat. Past nesting activities have occurred on the beach in front the condominiums located approximately .75 miles east of the project area and at least one nesting has occurred on the beach in front of the Isle Dauphine Country Club immediately east of the project area. None of the above indicated that nesting had ever occurred in the project area.

Based on discussions with the sea turtle contacts and personal observations of the project area by the undersigned and my staff suggests that suitable habitat for sea turtle nesting currently does not exist in the project area. Extensive shoreline and dune erosion in the project area would prohibit the liklihood of such activities.

In conclusion, we believe that the proposed action would have no effect on Federally-protected species under your purview. We would appreciate your concurrence with regard to this matter.

Should you have questions concerning our determination, please feel free to contact the undersigned or Mr. R. Douglas Nester at 694-4141 or 694-3854, respectively.

Sincerely,

Susan Ivester Rees
Chief, Coastal Environment
Section

Enclosures

PD-EC/NESTER
PD-EC/REES
PD-E/MCCLELLAN

Project Description

The plan selected would provide a heavy stone section along the beach to arrest shoreline erosion. Stone placement would begin 150 feet east of the Dauphin Island Park and Beach Board fishing pier centerline and extend approximately 200 feet west of the centerline, depending on whether or not the bath house is still standing when the project is constructed. The trapezoidal section would be placed as far gulfward as practical to permit sand eroding from the existing dune to accumulate in its rear. A stone blanket 3 feet thick and 30 feet wide, 10 feet on either side of the pier bent piling, and beginning at the toe of the shore protection, would be placed beneath the full length of the pier to arrest the bottom recession that is lessening the support for the piling. All stone would be placed on geotextile filters. Construction, and future maintenance, would utilize temporary board roads placed through existing openings in the dune line.

Design

As indicated above, the selected plan consists of heavy stone protection along the shoreline and a stone blanket under the entire pier. This plan would arrest the erosion around the pier for a period of 15 years. We estimate that at the end of that period the surrounding bottom would have eroded to a depth where reliable support of the pier would no longer be available. The details of this plan are shown on the attached figure. A heavy stone control structure would start 150 feet east of the pier and extend to 200 feet west of the pier to provide protection for the bath house. (If, at the time of construction, the bath house support has eroded to the extent that protecting it is no longer practical, the structure could be shortened by 150 feet). Beginning at the shoreline structure, a 3-foot thick stone blanket would be laid on geotextile fabric underneath the pier for its full length to arrest bottom erosion. The blanket would extend 10 feet out from the pile bents supporting the pier and completely around the pier perimeter. This would allow the blanket to settle around the edges as the bottom erodes and maintain the protection underneath the pier. This blanket would be 30 feet wide and 835 feet long.

The stone protection would be sound, durable, and of suitable quality to ensure permanence in the structure, and in the climate in which it is proposed for use. Potential sources of stone would be provided in the plans and specifications, and all material necessary to perform the work would be procured commercially. Stone size is based on an incident wave height of six (6)

feet at the structures, and is in accordance with the methods outlined in the U.S. Army Corps of Engineers Shore Protection Manual and the Automated Coastal Engineering System.

Stone used for shoreline protection would conform to the following gradation limits		
STONE WEIGHT (lbs)	**PERCENT LIGHTER** (by weight)	**APPROXIMATE SIZE** (in)
8,110	Max. Wt.	38-43
3,400	64-100	28-33
2,015	41-66	24-27
1,090	11-38	20-23
505	0-15	15-17
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2,400	Max. Wt.	25-29
1,000	64-100	19-22
600	42-66	16-18
325	10-38	13-15
150	0-15	10-12

Doug

UNITED STATES DEPARTMENT OF COMMERC
National Oceanic and Atmospheric Administrati
NATIONAL MARINE FISHERIES SERVICE
Southeast Region
9450 Koger Boulevard
St. Petersburg, FL 33702

October 16, 1992 F/SE013:TLD

Ms. Susan Ivester Rees
Chief, Coastal Environmental
Section
U.S. Dept. of the Army
Mobile District, COE
Post Office Box 2288
Mobile, AL 36628-0001

Dear Ms. Rees:

This responds to your letter of October 7, 1992, requesting information on endangered and threatened species under the jurisdiction of the National Marine Fisheries Service (NMFS) which might occur in the vicinity of the proposed project for the east end of Dauphin Island, Mobile County, Alabama. The enclosed list contains species under NMFS purview that may occur in the marine environment off Alabama.

If you have any questions, please contact Terry Henwood, Fishery Biologist, at 813/893-3366.

Sincerely,

Jeffrey Brown

for Charles A. Oravetz, Chief
Protected Species Management
Branch

Enclosure

ENDANGERED AND THREATENED SPECIES AND CRITICAL HABITATS UNDER NMFS JURISDICTION

Alabama

Listed Species	Scientific Name	Status	Date Listed
finback whale	Balaenoptera physalus	E	12/02/70
humpback whale	Megaptera novaeangliae	E	12/02/70
right whale	Eubaleana glacialis	E	12/02/70
sei whale	Balaenoptera borealis	E	12/02/70
sperm whale	Physeter catodon	E	12/02/70
green sea turtle	Chelonia mydas	Th	07/28/78
hawksbill sea turtle	Eretmochelys imbricata	E	06/02/70
Kemp's (Atlantic) ridley sea turtle	Lepidochelys kempi	E	12/02/70
leatherback sea turtle	Dermochelys coriacea	E	06/02/70
loggerhead sea turtle	Caretta caretta	Th	07/28/78

SPECIES PROPOSED FOR LISTING
None

LISTED CRITICAL HABITAT
None

PROPOSED CRITICAL HABITAT
None

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
9450 Koger Boulevard
St. Petersburg, FL 33702

MAY 14 1993 F/SE013:TAH

Dr. Susan Ivester Rees
Chief, Coastal Environment Section
Mobile District COE
P.O. Box 2288
Mobile, Alabama 36628-0001

Dear Dr. Rees:

This responds to your April 21, 1993, letter regarding a proposed shoreline protection project near Dauphin Island Park and Beach Board Main Beach Park, Dauphin Island, Alabama. A Biological Assessment (BA) was submitted pursuant to Section 7 of the Endangered Species Act of 1973 (ESA).

We have reviewed the BA and concur with your determination that populations of endangered/threatened species under our purview would not be adversely affected by the proposed action. However, the U.S. Fish and Wildlife Service has jurisdiction over sea turtles on land, and they should be contacted regarding possible adverse effects to nesting turtles or nesting habitat.

This concludes consultation responsibilities under Section 7 of the ESA. However, consultation should be reinitiated if new information reveals impacts of the identified activity that may affect listed species or their critical habitat, a new species is listed, the identified activity is subsequently modified, or critical habitat determined that may be affected by the proposed activity.

If you have any questions please contact Terry Henwood, Fishery Biologist, at 813/893-3366.

Sincerely yours,

Terry Henwood

for Andrew J. Kemmerer
Regional Director

cc: F/SEO2
F/PR2

Enclosure B-4

April 14, 1993

Environmental Resources
Planning Section

Mr. F. Lawerence Oaks
Alabama State Historic
Preservation Officer
ATTN: Ms. Lee Luis
Alabama Historical Commission
725 Monroe Street
Montgomery, AL 36104

Dear Mr. Oaks:

The Mobile District, U.S. Army Corps of Engineers is considering the need to install shoreline protection at an existing pier on the south shore of Dauphin Island, Alabama. The location of the proposed work is shown on the enclosed map.

The proposed work consists of installing protective stone along the shoreline for a distance of 150 feet east and 150 - 300 feet west of the pier centerline. In addition, a stone blanket 30 feet wide and three feet thick would be placed under the pier from the toe of the shoreline protection for the entire pier length. All stone will be placed on geotextile filter cloth. Construction, and future maintenance, would use a temporary board road placed through existing openings in the dune line.

Given the location and nature of the proposed work, it is our opinion that a cultural resources survey is not warranted. If you agree with this determination, please sign this letter in the space provided below and return it to me within thirty days of your receipt. An expeditious response will be appreciated.

Should you have questions or require additional information, please contact Mobile District archeologist Ms. Dottie Gibbens at 205/694-4114.

Sincerely,

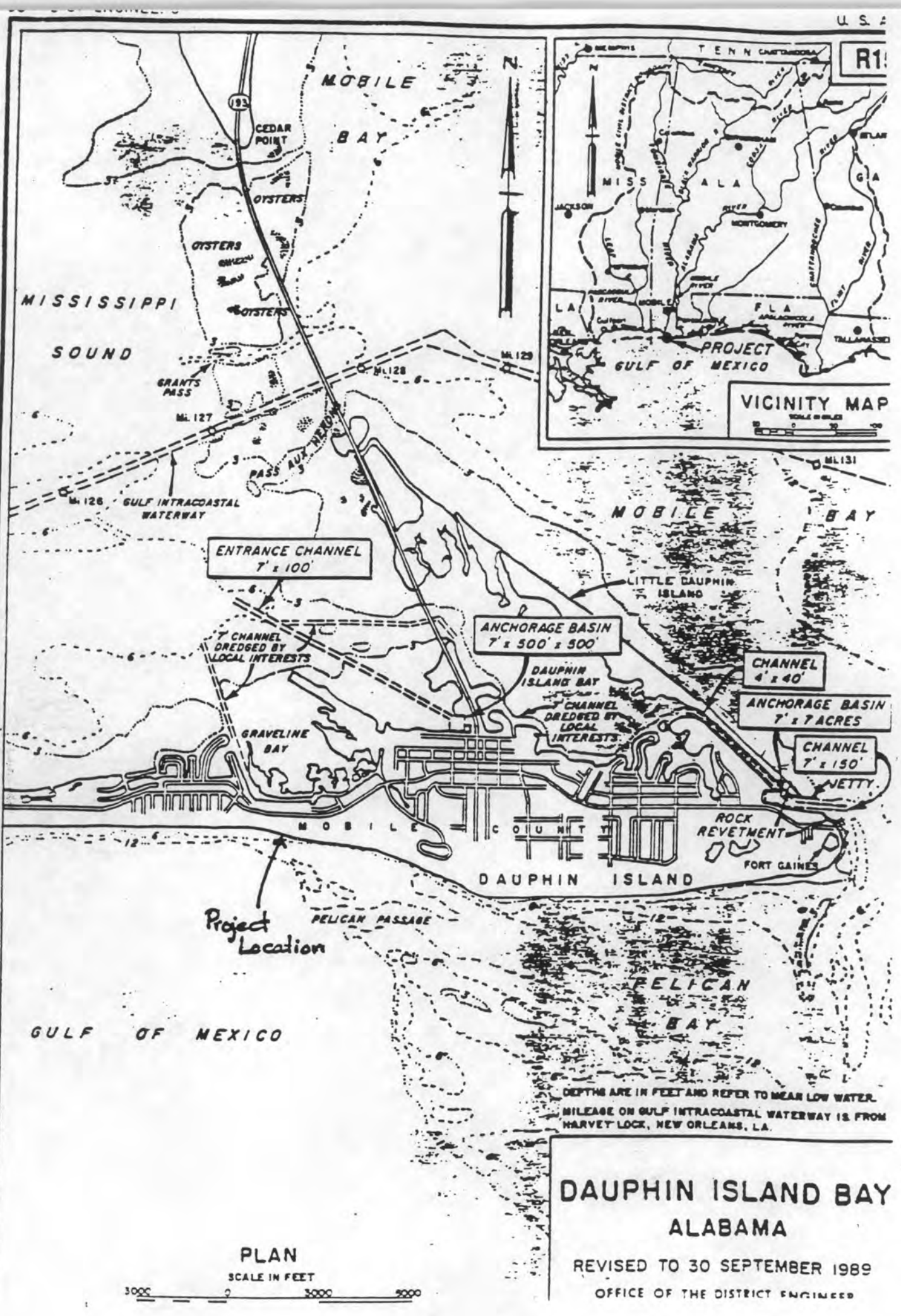
Hugh A. McClellan
Chief, Environment and Resources
Branch

PD-ER/Gibbens/4114 out
PD-ER/Nielsen out
PD-ER/~~Thornton~~ RJT
PD-E/~~McClellan~~ HM

Enclosure

CONCURRENCE:

F. Lawerence Oaks Date
Alabama State Historic Preservation Officer



DAUPHIN ISLAND BAY
ALABAMA

REVISED TO 30 SEPTEMBER 1989

OFFICE OF THE DISTRICT ENGINEER

DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

April 14, 1993

REPLY TO
ATTENTION OF:

Environmental Resources
Planning Section

Mr. F. Lawerence Oaks
Alabama State Historic
Preservation Officer
ATTN: Ms. Lee Luis
Alabama Historical Commission
725 Monroe Street
Montgomery, AL 36104

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Should you have questions or require additional information, please contact Mobile District archeologist Ms. Dottie Gibbens at 205/694-4114.

Sincerely,

Hugh A. McClellan
Chief, Environment and Resources
Branch

Enclosure

CONCURRENCE:

F. Lawerence Oaks 5-5-93

F. Lawerence Oaks Date
Alabama State Historic Preservation Officer

CF:
PD-E

STATE OF ALABAMA
ALABAMA HISTORICAL COMMISSION
468 South Perry Street
MONTGOMERY, ALABAMA 36130-0900

F. LAWERENCE OAKS
EXECUTIVE DIRECTOR

TELEPHONE NUMBER
242-3184

May 24, 1993

District Engineer
Department of the Army
Mobile District, Corps of Engineers
P.O. Box 2288
Mobile, Alabama 36628

Re: FP93-DI08-3
Shoreline Protection & Erosion Control
Mobile County, AL

Dear Sir:

The Alabama Historical Commission has determined that the above referenced project will not have an effect upon any cultural resources on or eligible for the National Register of Historic Places. Therefore, our office concurs with the proposed activities.

Sincerely,

F. Lawerence Oaks

F. Lawerence Oaks
State Historic Preservation Officer

FLO LAL/gtj

FACSIMILE TRANSMITTAL COVER SHEET

U.S. Army Corps of Engineers
Mobile District

PLEASE DELIVER THE FOLLOWING SHEETS TO:

OFFICE/NAME: ADEM – MR. BLAKE ROPER
LOCATION: Mobile, AL
TELEPHONE: 205/450-3400 FAX NO.: 205/479-2593

PRECEDENCE: Priority
NO. OF PAGES (INCL. COVER): 8

NOTE: If all pages are not received, please call sender.

FROM:

OFFICE/NAME: CESAM-PD-EC / Doug Nester
TELEPHONE NO.: 205-694-3854
FAX NO.: 205-690-2424

DATE: 4-19-93
RELEASER'S SIGNATURE: R. Douglas Nester

DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

REPLY TO
ATTENTION OF:

CESAM-PD-EC
PUBLIC NOTICE NO. FP93-DI08-3 20 April 1993

DRAFT

JOINT PUBLIC NOTICE
U.S. ARMY CORPS OF ENGINEERS
AND
ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

PROPOSED SHORELINE PROTECTION AND EROSION CONTROL
DAUPHIN ISLAND PARK AND BEACH BOARD
MAIN BEACH PARK
MOBILE COUNTY, ALABAMA

A FEDERALLY AUTHORIZED PROJECT

Interested persons are hereby notified that the United States Army Corps of Engineers, Mobile District proposes to protect a portion of the shoreline in the vicinity of the Dauphin Island Park and Beach Board structures on Dauphin Island, Alabama. The proposed project area is shown on Figures 1 and 2.

This Public Notice is issued in accordance with the rules and regulations published in the Federal Register on April 26, 1988. These regulations provide for the review of dredge and fill programs for Federally authorized projects under the Clean Water Act (33 U.S.C. 1344); the Marine Protection Research and Sanctuaries Act (33 U.S.C. 1413); and consistent with the requirements of the following related Federal laws and Executive Orders: Section 306 and 307(c) of the Coastal Zone Management Act of 1976 (16 U.S.C. 1456(c)); the National Environmental Policy Act (42 U.S.C. 4341 et seq.) as amended; the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) as amended; the Endangered Species Act (16 U.S.C. 1531 et seq.); the National Historic Preservation Act of 1966 (16 U.S.C. 407a et seq.), as amended; the Estuary Protection Act (16 U.S.C. 1221); the Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.), as amended; the Water Resources Development Act of 1976 (16 U.S.C. 1456(c)), as amended; Executive Order 11593, Protection and Enhancement of the Cultural Environment, May 13, 1971 (36 FR 8921, May 15, 1971); Executive Order 11988, Floodplain Management, May 24, 1977 (42 FR 26951, May 25, 1977); Executive Order 11990, Protection of Wetlands, May 24, 1977 (42 FR 26961, May 25, 1977);

Executive Order 12372, Intergovernmental Review of Federal Programs, July 14, 1982, (47 FR 3959, July 16, 1982); and Executive Order 12114, Environmental Effects Abroad of Major Federal Actions, January 4, 1979.

These laws are applied whenever dredged or fill materials may enter navigable waters. We also request the recipient of this notice to review the proposed action as it may impact on water quality, relative to the requirements of Section 404(b)(1) of the Clean Water Act. We also ask your comment on any other potential impact.

WATERWAY AND LOCATION: Mobile Bay, Mobile County, Alabama and the Gulf of Mexico.

DESCRIPTION OF THE PROPOSED ACTION: The proposed action would be implemented under the authority of Section 14 of the Flood Control Act of 1946 (Public Law 79-526), as amended. Section 14 provides authority for the Secretary of the Army to undertake emergency measures to prevent erosion damages to endangered highways, public works, and non-profit public facilities. In addition to major highway systems of national importance, eligible highways include principal highways, streets, and roads of significant importance to the community, such as arterial streets, important access routes to other communities and adjacent settlements, as well as roads designated as primary farm to market roads.

The proposed action is the protection of the shoreline in the vicinity of the Dauphin Island Park Beach Board pier and bath house facilities on Dauphin Island, Alabama.

The proposed action, as shown in Figure 2, would provide a heavy stone section along the beach to arrest shoreline erosion. Stone placement would begin 150 feet east of the pier centerline and extend 150 to 300 feet west of the centerline, depending on whether or not the bath house exists when the project is constructed. The trapezoidal-shaped stone section would be placed as far gulfward as practical to permit sand accumulation landward of the structure. Beginning at the toe of the shore protection, a stone blanket three feet thick, 30 feet wide, and 10 feet on either side of the pier piling would be placed beneath the full length of the pier to arrest the bottom recession that is reducing the support for the piling. All stone would be placed on geotextile filters. Construction, and future maintenance, would utilize a temporary board road placed through existing openings in the dune line.

WATER QUALITY CERTIFICATION: Pursuant to the Clean Water Act, state water quality certification is required for the proposed action as described above. Water quality certification for a one-time action is being requested from the Alabama Department of Environmental Management (ADEM).

COASTAL ZONE CONSISTENCY: Pursuant to the Coastal Zone Management Act, coastal area management program consistency has been requested from ADEM. Upon completion of the required comment period and ADEM's review, a decision relative to certification will be made.

USE BY OTHERS: The proposed action for the Dauphin Island Park and Beach Board Main Beach Park Shoreline Protection and Erosion Control project is not expected to cause any significant land use changes in the adjacent areas. Use of waters in the vicinity of the proposed project area includes fishing, shrimping, and recreational boating.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) CONSIDERATIONS: In accordance with the requirements of the National Environmental Policy Act, an environmental assessment of the proposed work areas identified in this public notice indicates that an Environmental Impact Statement is not required to address the proposed protection of the Dauphin Island Park and Beach Board pier and bathhouse. The assessment will be finalized and the final determination of EIS requirement will be made upon completion of the environmental coordination. The environmental assessment and other NEPA documents are available for review in the Mobile District Office.

SECTION 404(b)(1) EVALUATION REPORT: Water quality impacts associated with the proposed action have been addressed in an evaluation report prepared in accordance with the guidelines promulgated by the EPA under Section 404(b)(1) of the Clean Water Act. A preliminary Section 404(b)(1) evaluation for the proposed areas has been prepared and is available in the Mobile District Office upon request. This evaluation will be finalized upon completion of the coordination of this public notice.

ENDANGERED SPECIES: Several species listed by the U.S Department of Interior and U.S. Department of Commerce as endangered or threatened are occasional visitors to the vicinity of the project area. None would be effected by the proposed action. Coordination with National Marine Fisheries Service and Fish and Wildlife Service, as required under Section 7 of the Endangered Species Act has been initiated and is ongoing.

CULTURAL RESOURCE CONSIDERATIONS: In compliance with the National Historic Preservation Act, and other authorities, the National Register of Historic Places has been consulted and there are no properties listed on or eligible for inclusion on the National Register that would be affected by the proposed work. The proposed action is being coordinated with the Alabama State Historic Preservation Officer.

FARMLAND PROTECTION POLICY ACT CONSIDERATIONS: The applicable portions of this project are being coordinated under the provisions of the act.

EVALUATION: The decision whether to proceed with the proposed action will be based on evaluating the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which may be reasonably expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. The proposed action will proceed unless it is found to be contrary to the overall public interest.

COORDINATION: Among the agencies receiving copies of this public notice are:

Alabama Department of Conservation and Natural Resources
Alabama Department of Environmental Management
Alabama State Historic Preservation Officer
Commander, Eighth Coast Guard District
Gulf of Mexico Fishery Management Council
Regional Director, U.S. Department of the Interior, National Park Service
Regional Director, U.S. Department of Commerce, National Marine Fisheries Service
U.S. Department of Agriculture, Soil Conservation Service
U.S. Environmental Protection Agency, Region IV
U.S. Department of the Interior, Fish and Wildlife Service

Other Federal, State, and local organizations, and United States Senators and Representatives of Alabama are provided copies of this notice and are asked to participate in coordinating this proposed action.

You are requested to communicate the information contained in this notice to any other parties who may have an interest in the proposed action.

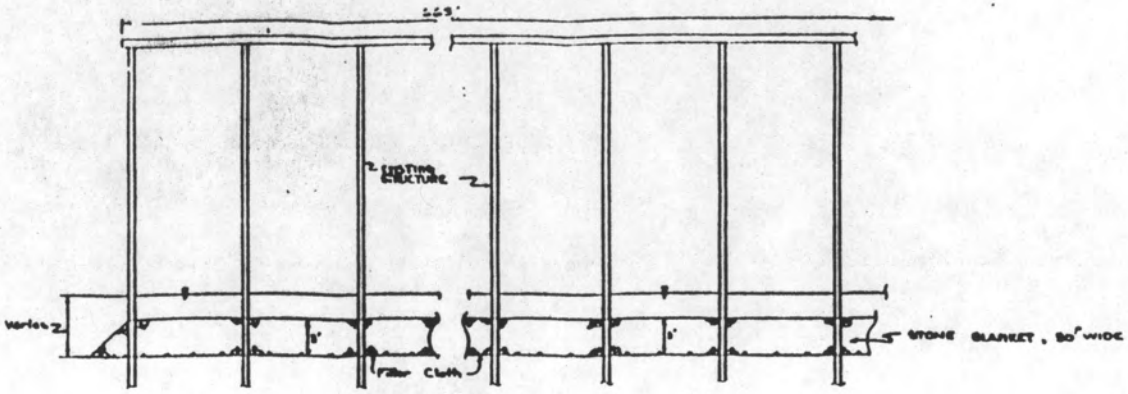
CORRESPONDENCE: Any person who has an interest which may be affected by this proposed activity may request a public hearing. Any comments or request for hearing must clearly set forth the interests which may be affected and the manner in which the interest may be affected.

Correspondence concerning this public notice should refer to Public Notice No. FP93-DI08-3 and should be directed to the District Engineer, U.S. Army Engineer District, Mobile, P.O. Box 2288, Mobile, Alabama 36628-0001, ATTN: CESAM-PD-EC in time to be received prior to xxxxxxx, 1993. Mr. R. Douglas Nester, telephone number 205/694-3854, may be contacted for additional information.

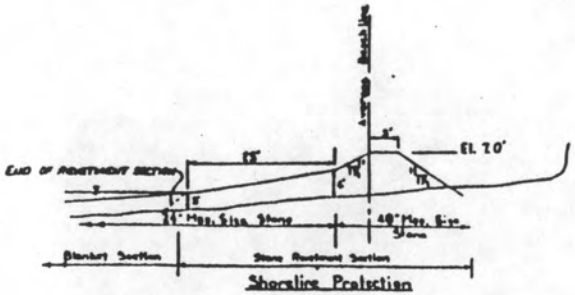
N.D. McClure
MOBILE DISTRICT
U.S. Army Corps of
Engineers

TAPERED END SECTION

Scale: 1" = 10'

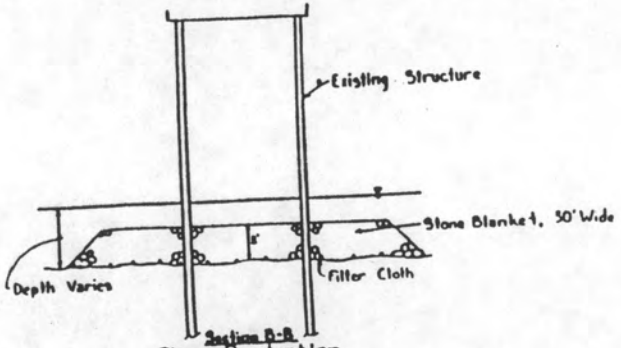


Pier Protection
SECTION A-A
SCALE 1" = 5'



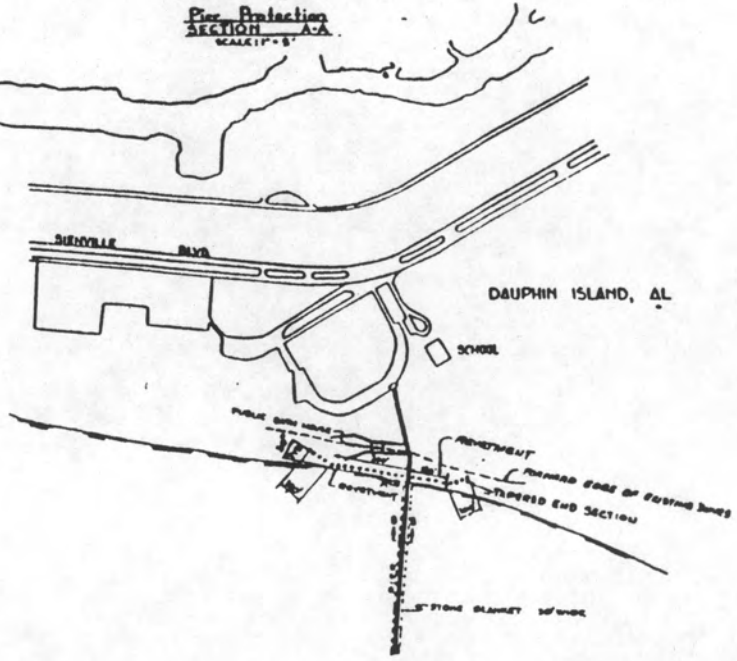
Shoreline Protection

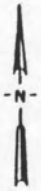
Scale: 1" = 10'



Section B-B
Pier Protection
Dauphin Island

Scale: 1" = 5'





U.S. ARMY ENGINEER DISTRICT, MOBILE CORPS OF ENGINEERS MOBILE, ALA.		
DAUPHIN ISLAND SHORELINE, ALABAMA SECTION 111 EROSION CONTROL PROJECT PROTECTION OF STRUCTURES AT MAIN BEACH PARK		
		2-19-93

FIGURE 2

ADEM

ALABAMA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Leigh Pegues, Director

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Guy Hunt
Governor

April 27, 1993

Mr. N. D. McClure
Mobile District, Corps of Engineers
P. O. Box 2288
Mobile, Alabama 36628-0001

Re: Coastal Consistency Review
Federal Project #FP93-DI08-3

Dear Sir:

We have received a draft public notice and engineering drawings for the above noted project which involves a proposal for shoreline protection and erosion control at the Dauphin Island Park and Beach Board main beach park, Mobile County, Alabama. The project basically calls for a 300-450 foot heavy stone revetment along the beach front and a 30 foot wide blanket of stone approximately 3 feet thick underneath the existing 665 foot pier.

A portion of the proposed project is located between mean high tide and the ADEM construction control line. ADEM Administrative Code Rule 335-8-1-.16(1) states that: "No person shall construct any new structure or make any substantial improvement to any existing structure on, beneath or above the surface of any land located between mean high tide and the construction control line." However, ADEM Administrative Code Rule 335-8-1-.08 does provide for shoreline erosion mitigation provided that provisions of that rule are met.

In order for the Department to proceed with its review of the proposal, information must be provided which will satisfy the provisions of ADEM Administrative Code Rule 335-8-1-.08 which are as follows:

(1) Any use intended to mitigate a shoreline erosion problem in the coastal area shall use non-structural erosion control methods to the maximum extent practicable, including but not limited to preservation and restoration of dunes, beaches, wetlands and submersed grassbeds, and shoreline restoration and nourishment.

(2) The emplacement of groins, jetties, and breakwaters as erosion control devices shall be permissible only when no other technically feasible alternative means of control is available and it is determined by the Department that there would be no substantial harm.

Enclosure B-9

Provision (1) should be self explanatory, however, the appropriateness of provision (2) may need explanation. Because of the configuration of the rock blanket proposed beneath the pier, it may have the same deleterious effects as are associated with groins and jetties. These structures along Gulf beaches have proven to have a direct and significant impact upon the longshore sand transport systems and to result in definite changes in the shoreline erosional patterns. This likelihood must be addressed in your proposal and the remedial action which you will undertake to alleviate such problems, should they develop, must be included.

I will await your response on these matters before continuing my review. Please call me at 205/450-3420 if you should have any questions regarding this matter.

Sincerely,

Blake Roper

Blake Roper, Chief
Coastal/Air Section

ct

cc: Doug Nester
Mobile District Corps of Engineers

May 3, 1993

Coastal Environment Section

Mr. Blake Roper
Chief, Coastal/Air Section
State of Alabama
Department of Environmental Management
2204 Perimeter Road
Mobile, Alabama 36615

Dear Mr. Roper:

Please reference your April 27, 1993, letter concerning the Coastal Consistency Review of Federal Project #FP93-DI08-3 entitled, "Proposed Shoreline Protection and Erosion Control, Dauphin Island Park and Beach Board, Main Beach Park, Mobile County, Alabama." A copy of your letter is provided for your ease of reference. We have reviewed your letter, and, more specifically, the two provisions of your Administrative Code Rule 335-8-1-.08 concerning mitigation of shoreline erosion and emplacement of structural erosion control devices and offer the following in support of the proposed action.

Our Planning and Engineering staff have explored a number of alternatives to offset the effect of erosion at the proposed site. No non-structural plan would, in our estimation, be effective since the erosion is apparently a direct result of the northward migration of Pelican Passage. This migration is forcing relatively high velocity tidal currents directly into the shoreline in the vicinity of the Main Beach Park.

The stone blanket proposed to arrest erosion beneath the pier is not a groin, jetty, or breakwater and its effect is not comparable to the effect of those structures. The blanket would be completely permeable through which sand will continue to flow, although at a slower rate, than the present situation. The 3-foot thick stone section is the minimum that would ensure the security of the pier and we expect that thickness to have only a small effect, if any, on longshore transport. We anticipate that a thin narrow strip of sand would accrete on the updrift side and that sand passage through the blanket would resume shortly after construction.

While not directly quantifiable, no significant effects on longshore transport are anticipated. Our estimate is that the blanket would block about 10% of the available littoral transport flow area. We anticipate a direct effect on local erosional patterns since the blanket would effectively arrest the erosion now occurring beneath the pier. However, due to the high transport rate through this area resulting from the migration of Pelican Passage, it is expected that the overall effects on longshore transport would not be significant.

We believe that the likelihood of any significant effect on littoral transport and, therefore, downdrift erosion, would be extremely unlikely. However, should such an effect be apparent during construction, we would, no doubt, attempt to address it. The authority under which this work is proposed, however, requires that the non-Federal sponsor assume all responsibility for the project after construction is complete. Consequently, problems arising after construction is officially complete would be the sponsor's responsibility.

I trust that the above information is sufficient to address your needs and the needs of your legal staff. If this information is sufficient, please let Mr. Doug Nester of my staff know whether or not he may proceed with the publication of the public notice. However, should you require further information, please feel free to contact me at 205/694-4141.

Sincerely,

Susan Ivester Rees
Chief, Coastal Environment
Section

Enclosure

oc CB
PD-EC/Nester
PD-EC/Rees
PD-E/McNeil

ADEM

ALABAMA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Leigh Pegues, Director

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Guy Hunt
Governor

April 27, 1993

Mr. N. D. McClure
Mobile District, Corps of Engineers
P. O. Box 2288
Mobile, Alabama 36628-0001

Re: Coastal Consistency Review
Federal Project #FP93-DI08-3

Dear Sir:

We have received a draft public notice and engineering drawings for the above noted project which involves a proposal for shoreline protection and erosion control at the Dauphin Island Park and Beach Board main beach park, Mobile County, Alabama. The project basically calls for a 300-450 foot heavy stone revetment along the beach front and a 30 foot wide blanket of stone approximately 3 feet thick underneath the existing 665 foot pier.

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In order for the Department to proceed with its review of the proposal, information must be provided which will satisfy the provisions of ADEM Administrative Code Rule 335-8-1-.08 which are as follows:

(1) Any use intended to mitigate a shoreline erosion problem in the coastal area shall use non-structural erosion control methods to the maximum extent practicable, including but not limited to preservation and restoration of dunes, beaches, wetlands and submersed grassbeds, and shoreline restoration and nourishment.

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Provision (1) should be self explanatory, however, the appropriateness of provision (2) may need explanation. Because of the configuration of the rock blanket proposed beneath the pier, it may have the same deleterious effects as are associated with groins and jetties. These structures along Gulf beaches have proven to have a direct and significant impact upon the longshore sand transport systems and to result in definite changes in the shoreline erosional patterns. This likelihood must be addressed in your proposal and the remedial action which you will undertake to alleviate such problems, should they develop, must be included.

I will await your response on these matters before continuing my review. Please call me at 205/450-3420 if you should have any questions regarding this matter.

Sincerely,

Blake Roper

Blake Roper, Chief
Coastal/Air Section

ct

cc: Doug Nester
Mobile District Corps of Engineers

Copy to PD-F

ADEM

ALABAMA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Jim Folsom
Governor

June 29, 1993

Mr. N. D. McClure
Mobile District Corps of Engineers
P. O. Box 2288
Mobile, AL 36628-0001

Re: Corps of Engineers Federal Project
FP93-DI08-3/COEP-93-04

Dear Sir:

The Alabama Department of Environmental Management has completed its review of the Corps of Engineers' proposal to provide shoreline protection for a portion of shoreline in the vicinity of the Dauphin Island Park and Beach Board structures on the Gulf beach front on Dauphin Island, Mobile County, Alabama. This proposed project has two components; 1)a heavy stone section along the beach extending approximately 150 feet east of the public pier and approximately 200 feet west of the pier and 2)a 30 foot wide and approximately 3 foot thick blanket of stone underneath the public pier and extending out to just beyond its 665 foot length. As noted, the purpose of this project is to control erosion which is causing a threat to the pier and various structures at the shoreline. The project is being undertaken by the Corps under Section 14 of the Flood Control Act of 1946 (Public Law 79-526), as amended. The Corps of Engineers advertisement of this project by joint public notice with ADEM has been completed.

As noted in our letter of April 27, 1993, the Department has some concerns regarding the effect this project will have on the littoral drift of sand along this shoreline and what changes in erosion and accretion patterns may result. In your letter May 3, 1993, you indicated that these effects are anticipated to be minimal and that if they did arise during construction that the Corps would try to address the problem. It was also noted in the letter that once the project was complete that the non-federal sponsor would assume any liabilities such as that which may result from changes in erosion and accretion patterns as noted above. In order to assess changes in the shoreline in the future, the Department requests that aerial photography of the shoreline one mile on either side of the project with surveyed points identified on the photograph(s) be provided upon project completion.

Enclosure B-11

Action pertinent to water quality and coastal management certification is required by Section 401(a)(1) of the Clean Water Act, 33 U.S.C. §1251, et. seq., and the Alabama Coastal Area Management Program. We hereby issue official certification that there is reasonable assurance that the discharge resulting from the proposed activities, as submitted, will not violate applicable water quality standards established under Section 303 of the Clean Water Act and Title 22, Section 22-22-9-(g), Code of Alabama (1975). We certify that the project has been found to be consistent with the management program. This certification in no way purports to vest in you title to lands now owned by the State of Alabama nor shall it be construed as acquiescence by the State of Alabama in your possession of lands now owned by the State of Alabama.

Sincerely,

James W. Warr
Deputy Director

JWW/BR/ct

cc: Doug Nester
Coastal Environment Section
Mobile District Corps of Engineers