11. SUMMARY OF AGENCY AND PUBLIC INVOLVEMENT

11.01 NEPA Coordination

On February 14, 2001, a scoping letter was sent to agencies, interest groups, and the public to request identification of significant resources and issues of concern. Eleven (11) letters of comment were received. The scoping letter, a list of respondents and comment letters appear in Appendix K. Comments received addressed various aspects of the project and generally (1) identified resource concerns or (2) other aspects of the project, such as alternatives analysis, dredging window, cumulative impact analysis, etc. needing to be thoroughly addressed. All comments received were considered during the continuation of project planning and design. Several resource agency representatives participated in project planning and will continue to participate throughout the NEPA process. These agencies include the U. S. Fish and Wildlife Service, National Marine Fisheries Service, North Carolina Department of Archives and History, North Carolina Wildlife Resources Commission and the Mineral Management Service.

On June 23, 2006 the Draft GRR/EIS was mailed to Federal and State agencies and the interested public for a 45-day review and comment period. Recipients of the Draft and Final GRR/EIS are listed in Section 11.04. Comments on the Draft EIS were received from the following:

Federal Agencies
- US Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
- US Department of Agriculture, Natural Resources Conservation Service
- US Environmental Protection Agency, Region IV
- US Department of the Interior, Fish and Wildlife Service
- US Department of the Interior, Minerals Management Service

State Agencies
- NC Department of Administration
- NC Department of Environment and Natural Resources
- NC Division of Coastal Management
- NC Department of Cultural Resources
- NC Division of Water Quality
- NC Wildlife Resources Commission
- NC Division of Marine Fisheries

Local Agencies/Municipalities
- Town of Topsail Beach, Town Manager

Conservation Groups
- Environmental Defense

Appendix T includes comments received on the Draft GRR/EIS and the U. S. Army Corps of Engineers, Wilmington District, response to each comment. Scanned copies of the letters and correspondence are included as Attachment 1 at the end of Appendix T in the CDROM version of the Final GRR and Final EIS, but not in the printed copy.

11.02 Fish & Wildlife Coordination

The Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661, et seq.), requires that the Corps of Engineers coordinate and obtain comments from the USFWS, the National Marine Fisheries Service, where applicable, and appropriate state fish and wildlife agencies, including the North Carolina Division of Marine Fisheries and the North Carolina Wildlife Resources Commission. The USFWS provided a Planning Aid Report (PAR), dated September 10, 2003, and a Draft Fish & Wildlife Coordination Report, dated May 25, 2005, which provided recommendations that have been considered during project development. Information regarding the components of the proposed action, potential alternatives, and related environmental issues have been coordinated with the USFWS, and their views are documented in a Final Fish & Wildlife Coordination Act (FWCA) Report, dated June 2007 (Appendix L). Specific fish and wildlife recommendations and USACE responses are presented in the following paragraphs:

1. USFWS Recommendation: There should be a clear presentation of the federal interest in the project area. The discussion should distinguish between efforts to reduce damage during storms and efforts to replace land lost as rising sea level pressures the island to move landward. There should be an acknowledgement that the ocean does not create permanent damage on the natural communities of barrier islands. What appears to be recession of the beach and dune results from movement of sand across the island to nourish the natural communities on the sound side, part of the natural, adaptive process of island movement. The reduction in beach width is actually the result of the area being squeezed between the rising ocean and a fixed line of man-made structures. A clear presentation of the nature of the problem will provide the foundation for determining the federal interest and the development of alternatives.

Corps Response: Federal interest is demonstrated by the fact that this project was authorized by Congress in WRDA 1992, that the project has a favorable benefit to cost ratio, and protects a public shoreline. The dune and berm project will reduce damages and prevent land losses due to both storm related, short term erosion and from long term erosion. In the without-project condition, erosion will continue to narrow the beach in front of existing structures, which will both reduce the suitability of the beach for recreation and for natural habitat. In addition, Topsail Beach is a fully developed barrier island, where sound-side deposition of sand by natural overwash processes is already severely restricted.

2. USFWS Recommendation: The efficacy of any program for replacing inundated beaches with imported fill material over 50 years will depend on global sea level rise during the period. Sea level rise along with more intense hurricanes will contribute to the destruction of a beach constructed, at least partially, in shallow ocean waters.

Information from the Intergovernmental Panel on Climate Change (IPCC 2007) and analysis such as Rahmstorf (2007) should be used in project planning.

Corps Response: The sea level rise value used in the GRR of 9.6 inches (0.8 feet) over the next 100 years is within the likely range of sea level rise reported for all but the most pessimistic scenario family presented in the IPCC 2007, Special Report on Emissions Scenarios (SRES), as shown below:

SRES Scenario Family	Likely Range of Sea Level Rise
Scenario B1 (most optimistic)	7 to 15 inches
Scenario A1T	8 to 18 inches
Scenario B2	8 to 17 inches
Scenario A1B	8 to 19 inches
Scenario A2	9 to 20 inches
Scenario A1FI (most pessimistic)	10 to 23 inches

Over the 50-yr project life, the difference between the GRR value and the average sea level rise values for each of the IPCC 2007 scenarios range from 0.7 to 3.45 inches, with all but the two most pessimistic scenarios being less than 2 inches difference. A tremendous amount of effort would be required to generate the revised storm responses for these relatively small differences in sea level. The computational precision, rounding, curve-fitting, built-in uncertainty, etc. that comprises the analysis could possibly mask much of the expected differences in outcome. Further, it is likely that the without-project condition (with its diminished dune and berm) is going to be more sensitive to sea level rise than the with-project condition will be, which will only increase the net benefits for the beachfill project.

3. USFWS Recommendation: The Corps is within the executive branch and is therefore required to comply with Executive Order (EO) 11988. This EO was enacted to avoid, to the extent possible, the long and short term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative (USACE 206, p. 118). Most of Topsail Island is in the 100-year floodplain (Pilkey et al. 1998, p. 171) and most of the island would be largely underwater in a category one or two hurricane and nearly completely submerged in a category three hurricane (Pilkey et al. 1998, p. 173). These dangers are reflected in the fact that the northern portion of Topsail Island is included in the Coastal Barrier Resource System (CBRS). Areas included the CBRS were generally considered unsuitable for development because they are vulnerable to hurricanes and other storm damage and because natural shoreline recession and the movement of unstable sediments undermine manmade structures. The current project area was excluded from the CBRS because it was developed at the time of the legislation and not because the development was at less risk. Since the 50-year program of beach construction is intended, in part, to "ensure that current growth trends in population and recreational visitation will continue," any action under the control of an executive branch agency must determine whether the action contributes to unwise development within a hazardous floodplain. The Corps should present a comprehensive discussion of the

justification for the conclusion that "the proposed action is in compliance with the requirements of Executive Order 11988" (USACE 2006, p. 119). Compliance with this EO should not be based on the high cost of removing the structures, but rather whether the presence of existing structures and the additional growth that would be supported by the federal action represents unwise development in a hazardous floodplain.

Corps Response: As discussed fully in **Section 10.08 Executive Order 11988,** IWR Report 96-PS-1, FINAL REPORT: An Analysis of the U.S. Army Corps of Engineers Shore Protection Program, June 1996 states: "The presence of a Corps project has little effect on new housing production. The econometric results presented imply that general economic growth of inland communities is sufficient by itself to drive residential development of beachfront areas at a rapid pace. The housing price study could not demonstrate that Corps shore protection projects influence development. Corps activity typically **follows** significant development." In fact, the requirements for Federal participation in coastal storm damage reduction projects essentially dictate that these projects be constructed along areas that have a high degree of development. Placement of beachfill will occur in the floodplain of area beaches. This placement will be conducted specifically for its beneficial effect in offsetting erosion and restoring damaged beaches, and is, therefore judged acceptable. The action is expected to have an insignificant effect on the floodplain, therefore, the proposed action is in compliance with the requirements of Executive Order 11988 and with State/local flood plain protection standards.

4. **USFWS Recommendation:** The goal of reducing storm damage could be achieved with less environmental harm by using non-structural measures. However, the Draft GRR/EIS determined (USACE 2006, p. 54) that the non-structural plan was not economically feasible and was not fully evaluated for technical feasibility or acceptability. This decision was based on consideration of the costs of removing or relocating structures, but without any economic consideration of the economic benefits to the natural resources of the area. There was an assumption that a non-structural approach would continue to result in land losses (USACE 2006, p. 59). Information presented in this report indicates that the non-structural approach, if implemented at all levels of government, would allow the formation of a wide, natural beach as Topsail Island is pushed landward. The remote, undisturbed beach which is recognized by the Corps (USACE 2006, p. 59) would support tourism and provide significant economic benefits for the region. The Service recommends that the economic benefits of the non-structural alternative receive greater consideration in the selection of the preferred course for federal action.

Corps Response: Further analysis of changes in recreation value of the nonstructural plan would most likely result in a negative value of recreational benefits, because there would be less lodging available for visitors. The B/C ratio of 0.92 was developed using the most optimistic assumptions.

5. USFWS Recommendation: If beach construction is ultimately undertaken, the fill material should have a high degree of compatibility with the native beach. The North

Carolina Sediment Criteria Rule, contained in the Technical Standards for Beach Fill Projects (15A NCAC 07H .0312), should be used in regard to grain size and percent weigh of calcium carbonate. In addition, compatibility should be established for other important characteristics such as organic content, heavy mineral content, and color.

Corps Response: The proposed borrow area sediments for this project will comply with grain size and percent weight requirements specified in 15A NCAC 07H .0312, Technical Standards for Beach Fill Projects. However, there are no Federal or State requirements for compatibility in regards to organic content, heavy mineral content, or color. Therefore, a compatibility analysis for these items will not be conducted.

6. USFWS Recommendation: If beach construction is ultimately undertaken, there should be a plan to monitor the quality of the fill material as it placed on the beach. There should be an effective procedure for stopping operations if inappropriate material is being pumped onto the beach. Since such real time protective measures may not be completely effective, there should also be a plan for inspecting the constructed beach for areas of incompatible material and removing such material before the start of the nest sea turtle nesting season.

Corps Response: See Section 7.04.1.7 of the final report titled, "Borrow Area Contingency Plan." This section thoroughly discusses the Corps intent to perform rigorous boring analyses of proposed borrow areas in order to minimize the risk of placing incompatible material on the beach as well as contingency measures for cutterhead pipeline and hopper dredge operations if incompatible material is unexpectedly encountered. Throughout the duration of construction operations, the Corps employs full time construction inspection personnel to perform on-sight inspections of the project operations to assure quality control and compliance with contract specifications. Furthermore, the Corps receives daily production reports from the contractor that provide detailed information pertaining to the Contractor's daily operations. All incompliance issues pertaining to compatibility concerns identified in the on-sight inspections or the daily reports are immediately forwarded to the Corps environmental staff as discussed in Section 7.04.1.7. Federal and state environmental agencies will be notified if, and how much, potentially incompatible material is encountered during dredging operations. If necessary, the Wilmington District will make the decision on a suitable contingency measure which may include moving the dredge to another site within the borrow area or to another borrow area, depending on availability of sediment, and will notify the agencies of this contingency measure. However, there is still a risk that some incompatible material is placed on the beach since real time protective measures are not 100% effective. Therefore, the Corps construction inspection personnel will inspect the beach for any significant amount of incompatible material within the project limits throughout the contract duration and if any incompatible material is identified within the constructed berm, the Corps will coordinate with the appropriate agencies to identify the quantity of material and discuss the methods of removal and disposal prior to the sea turtle nesting season.

7. USFWS Recommendation: Offshore sediment extraction and sediment disposal should be scheduled during the least sensitive period of the year for the organisms dependent on the habitats to be affected. Every effort should be made to complete all beach work, both actual placement and shaping, by the end of March for the benefit of important beach invertebrates and migratory shorebirds.

Corps Response: The majority of work will take place in the winter months, during the period of low biological activity for most species. Specifically, the anticipated construction timeframe for initial and periodic nourishment events will avoid peak recruitment and abundance time period for surf zone fishes and benthic invertebrates. Additionally, the Corps will convene a work group to identify study objectives that answer questions regarding critical life cycle requirements of benthic invertebrates and will contribute funds to carry out subsequent scientific investigations.

Section 2.02.3 Birds, provides a review of piping plover nesting activity on Topsail Beach and documents historical nesting activity in the southern spit portion of the island, outside of the project limits. Though construction during initial nourishment and during each re-nourishment interval will extend through April 30, no construction activities or placement of sediment will occur in the designated piping plover critical habitat where most historical nesting has occurred. Prior to each nourishment event, the Corps will coordinate with the NCWRC and USFWS to address any new piping plover concerns within the project area and will work with the agencies to reduce any impacts to the maximum extent practicable. Heavy development and beach use and a lack of the constituent elements necessary for good piping plover nesting habitat have limited nesting activity on the developed portions of the island. The Corps will plan, to the maximum extent practicable, to commence nourishment operations at the southern limits during the winter months and work away from the designated critical habitat area so that by 1 April the project construction is at its northern limits.

Corps Response: During initial construction and throughout each re-nourishment interval, the Corps intends, to the maximum extent practicable, to observe the sensitive sea turtle nesting season (1 May – 15 November). Initial construction and each re-nourishment interval can be completed within the turtle window if no un-expected obstacles are encountered. However, considering the larger quantities of sediment that are needed during initial construction, completion of construction activities within the turtle window could be very tight. Therefore, the Corps will likely coordinate with the North Carolina Wildlife Resources Commission (NCWRC) and the Fish and Wildlife Service (USFWS), during initial construction, to begin placing pipe on the beach by 1 November so that pumping could commence on 15 November. The Corps will work with the NCWRC and the sea turtle coordinator for the Town of Topsail Beach in order to relocate any nests laid late in the season that may have an incubation period through 15 November and would be within the initial point of construction within the project area. Considering that only a small portion of the Topsail Island will be impacted with construction activities during this 15-day timeframe within the observed sea turtle nesting season, there will be several places throughout the island to relocate nests to outside of construction activities if necessary. Nonetheless, a commitment to observe the sea turtle

nesting season during initial construction and re-nourishment will be adhered to, to the maximum extent practicable.

8. USFWS Recommendation: The Corps should ensure that no offshore hardbottom habitats are affected by sedimentation produced by the project, either as a result of offshore dredging or sediment washing off the beach. This goal may be accomplished by actual surveys of the offshore sediment extraction sites. A sufficient buffer should be required between the dredging operation and hardbottoms. At a minimum, sediment extraction should comply with the North Carolina law (15A NCAC 07H. 0208(b)(12)(A)(iv)) requiring that mining of submerged land should not be conducted on or within 500 meters (1,640 feet) of significant biological communities, such as high relief hardbottom areas. If offshore hardbottoms are adversely affected, the project should include specific measures to mitigate any adverse impacts.

Corps Response: As discussed in detail in **Section 8.01.8.2 Impacts to Hardbottoms**, Considering that: (1) hopper dredge turbidity and sedimentation plumes will be confined to the offshore borrow areas during the dredging operation, (2) based on side scan sonar, no hardbottom was identified in these borrow areas, and (3) only 2 of the six borrow areas are within the vicinity of offshore hardbottom and the nearest point to the borrow area is about 2,000 ft., the effects of turbidity and sedimentation plumes on offshore hardbottom will be insignificant.

9. USFWS Recommendation: While the use of highly compatible fill material would minimize turbidity and sedimentation due to runoff from the constructed beach, small inclusion of mud and silt pose a risk to nearshore hardbottoms. Project planning should establish a program to monitor the location, areal extent, and major organisms of nearshore hardbottoms prior to initial construction. These areas should be surveyed after initial construction to determine an adverse sedimentation and change in the biological community. If it appears likely that nearshore hardbottoms could be covered by sediment moving off the constructed beach, it may be necessary to have a monitoring program to detect any overall loss of exposed hardbottoms and to develop and implement appropriate mitigation measures. Mitigation measures could include a reduction in the amount of beach fill near vulnerable hardbottoms.

Corps Response: As identified in Appendix R, the side scan and multibeam survey results did not identify hardbottom resources within the -23' depth of closure limit of the project but rather very shallow depressional features located perpendicular to shore. These features are consistent with Rippled Scour Depressions (RSD's), Rippled Channel Depressions (RCD's), and or sorted bedforms as identified in the literature. During the equilibration process, the nourished sediment will move offshore as the constructed beach profile equilibrates to a more natural beach profile. The total area of the RSD, RCD, and/or sorted bedform features that occurs within the -23 ft. depth of closure limit is 0.3834 acres. Though nourished sediment could gradually move within the depressional features, it is likely that the features will be maintained as a preferential morphologic state through the repeating, self-reinforcing pattern of forcing and

sedimentary response which causes the features to be maintained as sediment starved bedforms responding to both along-and across shore flows (Thieler *et. al*., 2001).

10. USFWS Recommendation: Project plans should include measures to avoid adverse impacts associated with placement of the sediment pipeline and measures to monitor and mitigate any spills from the pipeline. During both initial construction and reconstruction events, the delivery pipeline should be placed to avoid the piping plover habitat areas around New Topsail Inlet. Pipeline placement should avoid all hardbottom areas. There should be a plan to monitor pipelines for leaks and an established plan of action in the case a joint in the dredge pipe should break. This plan should describe measures to contain and clean the spill.

Corps Response: As identified in Section 3.02.8 and 4.0 of Appendix I, construction operations will avoid the piping plover critical habitat area within the vicinity of the inlet spit at New Topsail Inlet. During initial construction, as well as each re-nourishment event, the order of work will be from south to north so that construction activities will be north of the piping plover breeding and nesting habitat, located at the inlet spit, during the March and April time-frame.

As identified in Section 7.03.1 of the report, initial construction will be performed by a cutterhead pipeline dredge and re-nourishment will be performed by a hopper dredge. For a cutterhead pipeline dredge, material will be hydraulically pumped from the borrow site to the beach via a submerged pipeline. The pipeline will approach the shoreface at a selected location and will then traverse the beach to the placement area. For hopper dredging activities, material will be hydraulically dredged and placed in the hopper of the dredge. For beach nourishment projects, depending on the specific dredge used, the maximum hopper load ranges between 6,000 CY and 12,000 CY. Upon completion of a full load, the hopper dredge will sail to a "pumpout" location just offshore of the beach. The hopper dredge will pump the material out of the hopper into a submerged pipeline which will approach the beach at a given area and extend to the placement area. Therefore, for both a cutterhead pipeline and hopper dredge, both submerged (in water) and exposed (on the beach) pipeline will transport the sediment to the placement area. For pipeline that is located on dry beach, the Contractor will be required to monitor the pipeline for leaks no less frequently than once every two hours. If a leak is detected, an assessment will be performed by the Contractor and the appropriate fix will be implemented to correct the problem. All pipeline inspections are logged and submitted daily to the Corps in order to document their completion.

For submerged pipeline, the Contractor will be required to traverse the pipeline via a boat to perform a visual assessment for indications of a pipe leak. In addition to visual surveys, Contractors can track pipe breaks or leaks using density gauges and meters. According to the standard contract specifications, any pipe leak in the water or on land is considered displaced material and its removal will be required based on an assessment of the severity of the situation. Upon completion of an assessment of the leak by the Contractor and the Corps and after coordinating the assessment with the appropriate agencies, a clean up measure will be implemented.

As identified in Section 2.01.10 of the Final report as well as in Appendix R, bathymetric surveys, including side scan sonar and multibeam techniques, have been performed by the Corps throughout the nearshore (<-23 ft. NGVD) and offshore (>-23 ft. NGVD) environment, including the borrow sites, to assess for the presence of hard bottom communities. Furthermore, seismic profile coverage, vibracores, and diver surveys have provided information, between the active beach (-23 ft NGVD) and three-miles offshore of Topsail Beach. As identified in the report, using the bathymetric surveys performed by the Corps, as well as other data identifying hard bottom communities within the existing literature, the submerged pipeline routes will avoid identified hard bottom communities in accordance with the 500 m buffer rule identified by the State. Offshore submerged pipeline routes, extending from the borrow site to the beach, will only be necessary for cutterhead pipeline dredging operations during initial construction. Each re-nourishment interval will be performed using a hopper dredge. Hopper dredge operations will only require a submerged pipeline from the pumpout location, located just offshore of the surfzone, to the beach. Detailed nearshore sidescan and multibeam surveys did not identify any hardbottom within the vicinity of any proposed pumpout stations within the nearshore environment (See Appendix R).

11. USFWS Recommendation: The project should include an annual monitoring program on beach and subtidal invertebrates that form an important food resource for shorebirds and surf fishes. While other monitoring programs have been implemented in North Carolina, each project has unique features such as the sediment source and the responses of invertebrates at one location may not be application to each beach construction effort. The project should include a requirement for a pre-project assessment of beach invertebrate biomass and community composition, i.e., the number of species present. The program should have adequate control areas such as Hutaff Island, south of the project area. After construction, the Corps should monitor the recovery of intertidal and near shore invertebrate populations. If any assessment indicates a significant decline in either biomass or the number of species present when compared to control areas, there should be definite procedures in place to develop mitigation for this community. Data from these studies will be especially important if the reconstruction interval is reduced as sea level continues to rise. While the Corps notes (USACE 2006, p. 130) that benthic populations may recovery within one to four years after large-scale sediment placement, a gradual reduction of the reconstruction interval could preclude adequate recovery and threaten these organisms which form an important base to the coastal food chain. The overall project plan should include funding for developing procedures to better understand mole crab and coquina clam life history requirements and developing effective measures to mitigate adverse impacts to these important resources.

Corps Response: Section 8.01.6 Benthic Resources – Beach and Surf Zone, addresses beach nourishment impacts to the benthic invertebrate community and discusses a thorough literature review indicating short term impacts to benthic invertebrate populations with recovery occurring between 1-4 years depending on sediment compatibility. For study sites where nourished sediments were compatible with the

native beach, recovery occurred within 1-year. Several Corps contracts addressing beach nourishment impacts to benthic invertebrate populations have recently been completed or are ongoing throughout the North Carolina beaches including Bogue Banks, Brunswick Beaches, and Dare County. The data that that has come back from these studies continue to support the large historical database, which indicates an initial impact to the benthic invertebrate resource with recovery occurring immediately after nourishment when the sediment is compatible with the native beach. Furthermore, the Dare County Beaches shore protection project has a significant monitoring plan, which includes a pre- and post-construction benthic invertebrate assessment. Considering the large historical monitoring database, the consistency of the data from these studies, and the continuing monitoring studies that are underway on other beach projects in North Carolina, the Corps does not plan to collect additional monitoring data for Topsail Beach. However, the Corps is encouraged by the Services recommendation to develop procedures to better understand benthic invertebrate life history requirements and the relationship these requirements have to beach activities, instead of additional monitoring studies. Recently, as a mitigation condition of the 401 water quality certificate for the Morehead City 933 project, the Corps participated in funding a study performed by Philip S. Kemp Jr., of the Carteret Community College, to investigate the feasibility of harvesting, holding, and culturing Donax spp. for resource enhancement aquaculture. The Corp will consider providing funds to continue this type of data collection in order to develop management guidelines and effective measures to mitigate identified impacts to these resources. Such a funding action would be fully coordinated with all concerned agencies. Additionally, the Corps will convene a work group to identify study objectives that answer questions regarding critical life cycle requirements of benthic invertebrates and will contribute funds to carry out subsequent scientific investigations.

12. USFWS Recommendation: A program for beach construction should include surveys for seabeach amaranth both before and for three years after sediment placement in order to avoid direct burial and to monitor recovery of the plant. With the proposed four-year reconstruction cycle, surveys for this endangered plant would be made every year. If data indicate a declining trend in the presence of this federally threatened species, the development of mitigation measures may be required. The project should also monitor beach vitex in the project as part of an effort to eradication this harmful invasive foreign plant.

Corps Response: Monitoring for seabeach amaranth on Topsail Beach will be performed by the Corps to assess the pre- and post-nourishment presence of plants. Beach vitex surveys are ancillary to seabeach amaranth surveys. Surveyors note the presence of beach vitex during amaranthus surveys and the data is coordinated with Dale Suiter of the USFWS, which in turn is shared with the Carolinas Beach Vitex Task Force.

13. USFWS Recommendation: Nesting by sea turtles will benefit from strict sediment compatibility standards and work schedules that avoid the nesting season. Current plans for beach construction avoid the recognized nesting and incubation season of May 1 through November 15. However, artificial beaches pose a risk to sea turtle nesting due

to: (1) sediment compaction; (2) escarpment formation; and, (3) altered sand temperature which may occur as a result of a change in sediment color. To mitigate sediment compaction, the Service recommends that compaction monitoring should occur after each construction event and for three subsequent years. Considering that reconstruction is scheduled for every four years between 2010 and 2058, a sediment compaction survey should be made each year of the project. However, compaction monitoring would not be required if the sediment used to construct the beach is completely washed away. Beach tilling should only be performed as a result of an identified compaction problem and not performed routinely in place of compaction monitoring. Similarly, visual surveys for escarpments should be made along the constructed beach immediately after completion of the sediment placement and prior to May 1. Additional surveys should be made for three years following initial construction. As with compaction monitoring, escarpment survey should be made each year of the project. Survey results should be submitted to the Service prior to any action being taken. After discussion with the Service, escarpments that interfere with sea turtle nesting or exceed 18 inches in height for a distance of 100 feet should be leveled to the natural beach contour by May 1. The Service should be contacted immediately if new escarpments that interfere with sea turtle nesting or exceed 18 inches in height for a distance of 100 feet form during the nesting and hatching season to determine the appropriate action to be taken. If it is determined that escarpment leveling is required during the nesting or hatching season, the Service will provide a brief written authorization that describes methods to be used to reduce the likelihood of impacting existing nests. A program for detecting and securing appropriate care for stranded sea turtles should be part of the project.

Corps Response: As identified in Section 3.02.5 and Section 4.0 of Appendix I (Biological Assessment), the Corps is committed assessing post nourishment beach compaction, escarpment formation, and sea turtle nest temperature relative to sediment color. As identified in Section 3.02.5, sediment compaction may occur from the project and could impact the nesting environment of sea turtles. Though sediment placed on the beach will be compatible with the native material, the risk of sediment compaction and subsequent impacts to the nesting environment of sea turtles still exists. The USFWS has traditionally provided guidelines for assessing beach compaction which include the use of a cone penetrometer instrument to assess compaction across 500-ft. spaced transects at varying stations and depths across the beach profile. A threshold value of 500 psi was used as an indicator for tilling requirements. Recent studies indicate that due to the variability of compaction measurement values among users (Piatkowski et al., 2001), among compaction instrumentation (Ferrell et al., 2001), as well as variability of compaction throughout a given beach (Davis et al., 1999), care should be taken when performing quantitative assessments of sediment compaction. Based on the results and recommendations of these studies, the Wilmington District has modified its approach towards assessing beach compaction for nourishment and disposal projects and has been working with the NCWRC and the USFWS towards a more qualitative evaluation of post construction compaction conditions relative to native beach conditions. The results of this new coordinated process in evaluating post project beach compaction have been successful. Therefore, for initial construction and during each nourishment event, the Corps will work with the Town of Topsail Beach and the NCWRC to continue this new

compaction assessment protocol, but will not adhere to the traditional USFWS compaction guidelines. Tilling will only be performed if deemed necessary by the technical staff of the NCWRC, USFWS, and USACE, based on compaction assessment results.

As identified in Section 4.0 of Appendix I, the beach will be monitored for escarpment formation prior to each nesting season. If an escarpment exceeds 18 inches for a distance of 100 ft. during construction operations it will be leveled. Furthermore, if it is determined that escarpment leveling is required during the nesting or hatching season, the Town of Topsail Beach or the Corps will coordinate with the USFWS to receive authorization that describes methods to be used to reduce the likelihood of impacting existing nests. Escarpment surveying and leveling will be performed by the Corps during initial construction and each nourishment interval and the Town of Topsail Beach will be responsible for surveys and, if necessary, leveling prior to the nesting season in the years between nourishment intervals.

As identified in Section 4.0 of Appendix I, throughout the duration of each nourishment event, both initial construction and periodic nourishment, the Contractor will be required to monitor for the presence of stranded sea turtles, live or dead. If a stranded sea turtle is identified, the Contractor will immediately notify the NCWRC of the stranding and implement the appropriate measures as directed. The Town of Topsail Beach is home to the Karen Beasley sea turtle hospital which has the facilities to provide care for stranded and injured sea turtles.

<u>Literature Cited</u>:

Davis, R.A.: Fitzgerald, M.V., and Terry, J., 1999. Turtle nesting on adjacent nourished beaches with different construction styles: Pinellas County, Florida. Journal of Coastal Research, 15(1), 111-120.

Ferrell, C., Webster, D., and D. Piatkowski. 2002. Comparison of five soil compaction measurement devices. Proceedings Twenty-Second International Sea Turtle Symposium, Miami, Fl., USA.

Piatkowski, D., and Webster, W.D., 2001. Efficacy of the cone and Lang penetrometers: management implications for beach re-nourishment in sea turtle nesting habitat. Proceedings Twenty First International Sea Turtle Symposium, Philadelphia, PA. USA.

14. USFWS Recommendation: Plans to exclude the southern part of the Town from sediment placement will benefit federal trust resources such as migratory shorebirds. However, piping plovers are especially susceptible to human disturbance during territory establishment and early nesting attempts and after the chicks have hatched. Therefore, the work on each construction event should start at the south end of the project area, near New Topsail Inlet, and move north during construction. This construction method would place the final phase of each construction event in the more developed, northern areas of the project area, habitat less likely to be used for nesting by the piping plover. Current

plans to place the delivery pipeline away from areas that might be used by piping plovers would also reduce adverse impacts on the species.

Corps Response: As previously stated, the Corps will plan, to the maximum extent practicable, to commence nourishment operations at the southern limits during the winter months and work away from the designated critical habitat area so that by 1 April the project construction is at the northern limits of the project area.

15. USFWS Recommendation: While the West Indian manatee is not likely to be in the project area during the proposed construction period, protective measures should be in place to safeguard this endangered species. Corps plans call for the implementation of the Service's "Precautions for General Construction in Areas Which May Be Used by the West Indian Manatee in North Carolina." These guidelines should provide adequate protection for this species.

Corps Response: The Corps will implement precautionary measures for avoiding impacts to manatees during construction activities as detailed in the "Guidelines for Avoiding Impacts to the West Indian Manatee in North Carolina Waters" established by the USFWS.

11.03 Coordination of this Document

This FEIS is being provided to a standard list of Federal, State, and local agencies; elected officials; environmental groups; and known interested individuals for review and comment. After a 30-day review period, all input received will be considered in preparation of the Record of Decision.

We invite your comments and suggestions regarding the proposed action. In accordance with Council on Environmental Quality regulations (40 CFR 1500-1508) for implementing the National Environmental Policy Act (NEPA), your comments should be as specific as possible and should be made with recognition that NEPA documents must focus on the issues that are truly significant to the proposed action rather than amassing needless detail. The NEPA process is intended to help public officials make decisions based upon an understanding of environmental consequences. NEPA directs that Federal activities be conducted so as to attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable or unintended consequences. As individual resources and stakeholder interests increasingly compete for priority, public officials are challenged to make management decisions that reflect a balance of the overall public interest. Please respond with a focus on essential issues that will be useful in guiding our decisions and actions as the Topsail Beach project proceeds. Statement recipients are listed in Section 11.04.

11.04 Recipients of this Document

Federal Agencies

Advisory Council on Historic Preservation
Center for Disease Control and Prevention
Federal Emergency Management Administration
National Marine Fisheries Service, Southeastern Regional Office
National Marine Fisheries Service, Habitat Conservation Division, Beaufort Marine Fisheries Center, Beaufort, NC
National Park Service, Southeast Archeological Center
US Coast Guard, Fifth District, Portsmouth, Virginia
US Coast Guard, Marine Safety Office, Wilmington, NC
US Forest Service, Southern Region, Atlanta, GA
US Department of Agriculture, State and Area Conservationists, Natural Resources Conservation Service
US Department of Energy, Office of Environmental Compliance
US Department of Interior, Energy and Resources Division
US Department of Interior, Office of Environmental Policy and Compliance
US Department of Interior, Minerals Management Service, Herndon, VA
US Department of Housing and Urban Development, Greensboro, NC
US Department of Transportation, Federal Highway Administration, Raleigh, NC
US Environmental Protection Agency, Region 4, Atlanta, GA
US Environmental Protection Agency, Office of Federal Activities, Washington, D. C.
US Fish and Wildlife Service, Raleigh Field Office
US Marine Corps Base, Camp Lejeune, NC

State Agencies

NC Commission of Indian Affairs
NC Department of Environment and Natural Resources (NC State Clearinghouse)
NC Department of Transportation
NC Division of Coastal Management
NC Division of Marine Fisheries, Wilmington, NC
NC Division of Marine Fisheries, Shellfish Sanitation, Beaufort, NC
NC Department of Cultural Resources, Division of Archives and History
NC National Estuarine Research Reserve
NC Wildlife Resources Commission

Local Agencies

CAMA Officer, Surf City, NC
CAMA, Topsail Beach, NC
Cape Fear Council of Governments
North Topsail Town Manager
Pender County Emergency Management

Pender County Manager
Pender County Planning Coordinator
Pender County Health Department
Surf City Town Manager
Town of Surf City
Town of Topsail Beach, NC
Topsail Beach Town Manager
Sea Turtle Hospital, Topsail Beach

Elected Officials

Honorable Elizabeth Dole, US Senate
Honorable Richard Burr, US Senate
Honorable Walter B. Jones, US House of Representatives
Honorable Mike McIntyre, U.S. House of Representatives
Honorable Harry Brown, NC House of Representatives
Honorable George G. Cleveland, NC House of Representatives
Honorable Carolyn H. Justice, NC House of Representatives
Honorable R. C. Soles, Jr., North Carolina Senate
Honorable Russell E. Tucker, NC House of Representatives
Honorable Thomas E. Wright, NC House of Representatives
Pender County Board of Commissioners
Onslow County Board of Commissioners
Topsail Beach, Board of Commissioners

Conservation Groups

National Audubon Society
North Carolina Coastal Federation
North Carolina Coastal Land Trust
North Carolina Environmental Defense Fund
North Carolina Nature Conservancy
Pender Watch
Tar River Land Conservancy

Libraries, Museums, and News Media

NC Collection, Joyner Library, East Carolina University, Greenville, NC
Pender Chronicle

Interested Businesses, Groups, and Individuals

Cape Fear Community College (Jason Rogers)
Duke University, Department of Department of Earth and Ocean Sciences(Geology), Dr. Orrin Pilkey
Land Management Group, Inc.

Mr. Ed Flynn
Mr. Glenn Hargett
South Carolina Indian Affairs Committee
UNC-Wilmington, Center for Marine Science (Troy Alphin)

12. CONCLUSIONS

The coastal storm problems and needs of the study area have been reviewed and evaluated with regard to the overall public interest and with consideration of engineering, economic, environmental, social, and cultural concerns. The conclusions of this study are as follows:

a. The Topsail Beach shoreline is susceptible to major damage and erosion from coastal storms.

b. The selected plan, consisting of a 26,200-foot long dune system to be constructed to a height of 12 feet NGVD fronted by a 7-foot NGVD (50-foot wide) beach berm with a main fill length of 23,200 feet, from approximately 400 feet southwest of Godwin Avenue to the Topsail Beach town limit, and having 2,000-foot transition length on the north end and a 1,000-foot transition length on the south end, would substantially reduce economic losses due to storm activity and progressive erosion.

c. The selected plan is feasible based on engineering and economic criteria and is acceptable by environmental, cultural, and social laws and standards.

d. The selected plan is supported by the non-Federal sponsor, the Town of Topsail Beach. The sponsor has the capability to provide the necessary non-Federal requirements identified and described in report Section 9.02, Division of Plan Responsibilities.

13. RECOMMENDATIONS

This study has addressed the needs for hurricane and storm damage protection and beach erosion control for the portion of Topsail Island, which includes the Town of Topsail Beach, the non-Federal sponsor. The remaining portion of Topsail Island will be addressed in a separate report at a later date. The following recommendations include items for implementation by Federal, State of North Carolina, and local governments and agencies, including the structural coastal storm damage reduction project.

Hurricane Risk Education

Numerous people die each year as a result of hurricanes, primarily due to the failure to evacuate to an area of safety. Any loss of life is tragic, and any number of those deaths may have been prevented. Even one death prevented is sufficient reason to improve our methods of educating the public on hurricane and storm threats, and to ensure that all is done to warn all those residents or visitors to the coastline of North Carolina as to the dual hazards of wind and surge/waves. It is particularly vital to inform the public as to the potential for hurricane occurrence, particularly within the dangerous hurricane season, so they pay continued attention to media reports on weather. Education needs to include articulation of effects related to the potential magnitude of the threat, the urgency to heed potential calls to evacuate, and providing the means by which to make wise choices on evacuation methods and route (see recommendations given below under "Hurricane Evacuation Planning"). The following are suggested guidelines for implementation by State and local government, in the interests of good education on hurricane storm threats:

- Provide good science and information to the residents and visitors to coastal North Carolina, so they can understand the nature of the threat, and its possibility of happening at any time within the hurricane season. This information should be provided in both written form, and as an initial "page" on televisions provided in visitor's housing, and also in a variety of venues, including:
    - Posting and televised education in supermarkets, libraries, and public buildings;
    - Teacher-provided, posted and televised education in schools and at public meetings and gatherings, at intervals not to exceed 1 year;
    - Publicly-posted and visitor-housing-posted information on evacuation routes, and procedures, on publicly-accessible websites, updated regularly (minimum 1 yr.).

There is nothing humanly possible to maintain the lives and safety of coastal North Carolina residents and visitors, if they do not have sufficient warning, and if they then do not use that knowledge to evacuate in a timely manner.

Education of hurricane risks is an on-going effort of multiple agencies and educational institutions, and not a funded program under existing Corps authorities. Updating of websites containing evacuation routes and procedures should be done under existing programs implemented by the state and local governments.

Hurricane and Storm Warning

Residents and visitors to the coast of North Carolina need to recognize that they live in, or visit, a high-hazard area. Although certain times of the year pose less risk than others, each year's hurricane season provides a strong possibility of hurricane impact somewhere along the coast of North Carolina. All residents and visitors need to be made aware of the current hurricane threat, but first meteorological conditions must be evaluated, and any threat must be assessed and characterized by experts with the National Oceanic and Atmospheric Administration's National Weather Service, and that interpretation passed to national and local media for dissemination. Continued support of NOAA's program, and the following supportive activities is critical to an adequate warning process:

- On-going efforts to upgrade the existing system of NOAA buoys, transmission capabilities, and advanced warning measures that provide data on the location and nature of weather conditions.
- Efforts directed at the interpretation of that data and its dissemination to the media and public, through the National Weather Service.
- Public appreciation for the need to be aware at all times of, and the need to listen to weather reports and advice given on various media. Television weather reports, radio, and the internet all provide excellent up-to-date information on weather conditions, and the development of threatening situations. Simply living in or visiting the barrier islands of North Carolina should be sufficient to create a consistent and on-going process of being exceptionally aware of the weather, and its potential consequences.
- The vital importance of heeding the advice of experts. One should know what needs to be done in the event of an approaching storm. Family members should conduct evacuation drills, keep needed phone numbers and travel supplies on hand, and be prepared to leave on short notice. One should be aware of evacuation routes, keeping a full tank of gas during the hurricane season, and having a plan for where one should go, how to maintain contact with other family members, and where one will re-locate temporarily, particularly if this turns out to be longer than expected.

Hurricane Evacuation Planning Upgrading

The critical need for adequate evacuation planning was borne out by Hurricanes Bertha, Fran, and Floyd, of the late 1990's, and brought even more to the forefront by the monumental impacts of Hurricane Katrina in 2005. An evacuation plan is an essential component of a comprehensive plan for ensuring the safety of residents of, and visitors, to the coast of North Carolina. The preservation of life is the single most important goal and objective of the recommendations. Joint Federal Emergency Management Agency (FEMA)/ NOAA/Corps/State of North Carolina studies of evacuation routes and populations along the coastline has provided a tremendous amount of value to-date in aiding local government, individual and family readiness, in the face of approaching events. Support for this program is a critical element of the recommendations for the Town of Topsail Beach, in support of its residents and visitors. The following are

important recommendations in support of efforts to support Hurricane Evacuation Planning:

- There is still much that can be done to update this on-going effort, and to provide new, and more widely-disseminated data and tools for evacuation planning by the State and the Town of Topsail Beach, and also for use by individuals and families in their preparation for an impending event.
- Evacuation route signage is an important part of a successful evacuation campaign. Maintenance of hurricane evacuation route signage is viewed as a vital link in ensuring the safety of residents and visitors alike.
- The provision of additional signage illustrating surge height achieved during past events would be an added and continual link to on-going education efforts. This could take the form of signs placed in locations in which there is significant traffic, such as major thoroughfares, where pedestrians walk, and particularly in those highest hazard zones based on elevation/depth data.

Evacuation Planning is an on-going effort of multiple agencies, including the Corps of Engineers, but its implementation is not a funded program under existing Corps authorities. Updating of websites containing evacuation routes and procedures should be periodically updated under existing programs implemented by the State of North Carolina.

Floodplain Management

Management of the floodplain is a non-Federal responsibility, yet is considered a key component of all plans for hurricane and storm damage reduction. The Town of Topsail Beach participates in the National Flood Insurance Program, which requires the town to engage in active and responsible floodplain management. The majority of residences and businesses within the Town of Topsail Beach possess flood insurance. Since so much of the Town of Topsail Beach is within a recognized floodplain, the Town continues to engage in activities that reduce threats to existing and potential future development, including structure setbacks, building code and construction monitoring, and flood zone management. The Town of Topsail Beach is encouraged to continue to update building codes, and encourage strong pursuit of activities such as first-floor elevation and building code upgrading, in the effort to reduce the potential for future structural and content damage.

Building Codes

The Town of Topsail Beach has adopted the International Building Code (IBC) to guide the design and construction of residential and commercial structures in the study area. In order to assure that the latest design and construction techniques are being used that apply to hurricane-resistant construction, all future construction is encouraged to follow the latest version of the IBC (2007) and ensure enforcement of the codes through diligent building permit processing and on-site inspections of construction. Annual training classes on the use and enforcement of the new IBC should be encouraged. In addition, the Town of Topsail Beach should consider adopting the document "FEMA 550

Guidelines for Elevating Residential Structures on the Gulf Coast" as a part of their updated building codes for construction, due to the possibility of surge inundation associated with hurricane events.

Long-term Critical Infrastructure and Services Upgrading

The upgrading of critical infrastructure and services, such as Fire and Police services, is considered a vital recommendation in the reduction of threats to lives and property. The need to bring these services up to immediate restoration in the wake of a hurricane is of vital importance to the community. The methodical upgrading of the Town's Fire and Police services facilities as past of their Capital Improvement Program will provide long-term savings in capital outlay, and potentially save lives and residential and commercial property damage. This program may be instituted under a modified Capital Improvement Program, where structures reaching the end of their economic life are successively replaced by upgraded structures, locating vital communications and power supplies above the elevation of a Maximum Probable Surge event, and capable of surviving the ravages of wind and/or surge, as funds become available.

Upgrading or replacement of services is primarily a local charge, implemented through Capital Improvement Plans, with funding from a variety of Federal, State, and local resources, and will take many years to accomplish, due to the varying age and condition of each facility.

Structural Damage Reduction Features

Based on the conclusions of this study, I recommend the implementation of the selected plan, identified as Plan 1250X. Plan 1250X consists of a 26,200-foot long dune system to be constructed to a height of 12 feet NGVD fronted by a 7-foot NGVD (50-foot wide) beach berm with a main fill length of 23,200 feet, from 400 feet southwest of Godwin Avenue to the Topsail Beach town limit, and having 2,000-foot transition length on the north end and a 1,000-foot transition length on the south end, with such modifications thereof as in the discretion of the Commander, USACE, may be advisable, at an initial construction cost estimated at $37,712,000 (October 2008 price levels). The baseline cost estimate for construction in FY2012 is $40,060,000.

As a result of the GRR study recommendations, I recommend that the project as authorized under Section 101 of the Water Resources Development Act (WRDA) of 1992 be re-authorized and implemented in accordance with the findings of the GRR.

I further recommend that construction of the proposed project be contingent on the project sponsor giving written assurances satisfactory to the Secretary of the Army that it will:

a. Provide 35 percent of initial project costs assigned to hurricane and storm damage reduction, plus 50 percent of initial project costs assigned to protecting undeveloped public lands, plus 50 percent of initial project costs assigned to recreation, plus 100 percent of initial project costs assigned to protecting undeveloped private lands and other private shores which do not provide public benefits and 50 percent of periodic nourishment costs assigned to hurricane and storm damage reduction plus 100 percent of periodic nourishment costs assigned to protecting undeveloped private lands and other private shores which do not provide public benefits and as further specified below:

(1). Enter into an agreement which provides, prior to execution of the project cooperation agreement, 25 percent of design costs;

(2). Provide, during the first year of construction, any additional funds needed to cover the non-federal share of design costs;

(3). Provide all lands, easements, and rights-of-way, and perform or ensure the performance of all relocations determined by the Federal Government to be necessary for the initial construction, periodic nourishment, operation, and maintenance of the project;

(4). Provide, during construction, any additional amounts as are necessary to make its total contribution equal to 35 percent of initial project costs assigned to hurricane and storm damage reduction plus 100 percent of initial project costs assigned to protecting undeveloped private lands and other private shores which do not provide public benefits and 50 percent of periodic nourishment costs assigned to hurricane and storm damage reduction plus 100 percent of periodic nourishment costs assigned to protecting undeveloped private lands and other private shores which do not provide public benefits;

b. Operate, maintain, and repair the completed project, or functional portion of the project, at no cost to the Federal Government, in a manner compatible with the project's authorized purposes and in accordance with applicable Federal and State laws and regulations and any specific directions prescribed by the Federal Government;

c. Give the Federal Government a right to enter, at reasonable times and in a reasonable manner, upon property that the non-Federal Sponsor, now or hereafter, owns or controls for access to the project for the purpose of inspecting, operating, maintaining, repairing, replacing, rehabilitating, or completing the project. No completion, operation, maintenance, repair, replacement, or rehabilitation by the Federal Government shall relieve the non-Federal Sponsor of responsibility to meet the non-Federal Sponsor's obligations, or to preclude the Federal Government from pursuing any other remedy at law or equity to ensure faithful performance;

d. Hold and save the United States free from all damages arising from the initial construction, periodic nourishment, operation, maintenance, repair, replacement, and rehabilitation of the project and any project-related betterments, except for damages due to the fault or negligence of the United States or its contractors;

e. Keep and maintain books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to the project, for a minimum of 3 years after completion of the accounting for which such books, records, documents, and other evidence is required, to the extent and in such detail as will properly reflect total costs of construction of the Project, and in accordance with the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments at 32 Code of Federal Regulations (CFR) Section 33.20;

f. Perform, or cause to be performed, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Public Law 96-510, as amended, 42 U.S.C. 9601-9675, that may exist in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be required for the initial construction, periodic nourishment, operation, and maintenance of the project. However, for lands that the Federal Government determines to be subject to the navigation servitude, only the Federal Government shall perform such investigations unless the Federal Government provides the non-Federal Sponsor with prior specific written direction, in which case the non-Federal Sponsor shall perform such investigations in accordance with such written direction;

g. Assume, as between the Federal Government and the non-Federal Sponsor, complete financial responsibility for all necessary cleanup and response costs of any CERCLA regulated materials located in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be necessary for the initial construction, periodic nourishment, operation, or maintenance of the project;

h. Agree that, as between the Federal Government and the non-Federal Sponsor, the Non-Federal Sponsor shall be considered the operator of the project for the purpose of CERCLA liability, and to the maximum extent practicable, operate, maintain, and repair the project in a manner that will not cause liability to arise under CERCLA;

i. Comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended by (42 U.S.C. 4601 – 4655), and the Uniform Regulations contained in 49 CFR Part 24, in acquiring lands, easements, and rights-of-way, required for the initial construction, periodic nourishment, operation, and maintenance of the project, including those necessary for relocations, borrow materials, and dredged or excavated material disposal, and inform all affected persons of applicable benefits, policies, and procedures in connection with said Act;

j. Comply with all applicable Federal and State laws and regulations, including, but not limited to, Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d), Department of Defense Directive 5500.11 issued pursuant thereto, as well as Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army," and all applicable Federal labor standards and requirements, including but not limited to, 40 U./S.C. 3141 – 3148 and 40 U.S.C. 3701 – 3708 (revising, codifying, and enacting without substantial change the provisions of the Davis- Bacon Act (formerly 40 U.S.C. 276a et seq.), the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. 327 et seq.) and the Copeland Anti-Kickback Act (formerly 40 U.S. C. 276c et seq.);

k. Comply with Section 402 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 701b-12), which requires the non-Federal interest to participate in and comply with applicable Federal floodplain management and flood insurance programs, prepare a floodplain management plan within one year after the date of signing a Project Cooperation Agreement, and implement the plan not later than one year after completion of construction of the project;

l. Provide the non-Federal share of that portion of the costs of mitigation and data recovery activities associated with historic preservation, that are in excess of 1 percent of the total amount authorized to be appropriated for the project, in accordance with the cost sharing provisions of the agreement;

m. Participate in and comply with applicable Federal floodplain management and flood insurance programs;

n. Do not use Federal funds to meet the non-Federal sponsor's share of total project costs unless the Federal granting agency verifies in writing that the expenditure of such funds is authorized.

o. Prevent obstructions of or encroachment on the project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) which might reduce the level of protection it affords, hinder operation and maintenance or future periodic nourishment, or interfere with its proper function, such as any new developments on project lands or the addition of facilities which would degrade the benefits of the project;

p. Not less than once each year, inform affected interests of the extent of protection afforded by the project;

q. Publicize floodplain information in the area concerned and provide this information to zoning and other regulatory agencies for their use in preventing unwise future development in the floodplain, and in adopting such regulations as may be necessary to prevent unwise future development and to ensure compatibility with protection levels provided by the project;

r. For so long as the project remains authorized, the non-Federal Sponsor shall ensure continued conditions of public ownership, access, and use of the shore upon which the amount of Federal participation is based;

s. Provide and maintain necessary access roads, parking areas, and other public use facilities, open and available to all on equal terms;

t. At least twice annually and after storm events, perform surveillance of the beach to determine losses of nourishment material from the project design section and provide the results of such surveillance to the Federal Government; and

u. Comply with Section 221 of Public Law 91-611, Flood Control Act of 1970, as amended (42 U.S.C. 1962d-5b), and Section 103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended (33 U.S.C. 22130, which provides that the Secretary of the Army shall not commence the construction of any water resources project or separable element thereof, until the Non-Federal sponsor has entered into a written agreement to furnish its required cooperation for the project or separable element.

The non-Federal sponsor has indicated that they have available the necessary funds to provide the non-Federal share of the project first costs and periodic renourishment costs. I am confidant that the non-Federal sponsor will provide their share.

This recommendation is subject to the cost-sharing policies as outlined in this report and is endorsed, provided that, prior to construction, the non-Federal sponsor enters into a written PCA, as required by Section 221 of Public Law 91-611, as amended.

The recommendations contained herein reflect the information available at this time and current departmental 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 the Congress as proposals for implementation funding. However, prior to transmittal to the Congress, the sponsor, the States, interested Federal agencies, and other parties will be advised of any modifications and will be afforded an opportunity to comment further.

The Administration's projections of future inflation are 2.0 percent annually. Based on these data, the total inflation adjusted (fully funded) project costs are estimated to be $277,000,000 over the 50-year period of Federal participation for the recommended plan of improvement. The Federal share of the fully funded project costs is currently estimated at $144,000,000. The non-Federal share of the fully funded costs is currently estimated at $133,000,000. Given the Administration's declared budgetary concerns, potential long-term costs associated with the proposed project may be vital to decision making. As previously indicated, the total project benefit-cost ratio is 3.0, which means that for every dollar spent for the project there are 3 dollars and 0 cent realized in National Economic Development (NED) benefits from the project.

These recommendations comply with Section 215 of the Water Resources Development Act of 1999, which sets cost sharing for periodic renourishment at 50 per cent Federal and 50 per cent non-federal. In recent years the Federal share of periodic renourishment costs of new shore protection projects has been limited by the availability of funds. However, I recommend that this General Reevaluation Report be approved, as a basis for the initiation of construction of the project in the event that the Administration's budgetary policy changes.

Jefferson M. Ryscavage
Colonel, U.S. Army
District Commander