

APPENDIX E

LOUISIANA COASTAL RESOURCES PROGRAM CONSISTENCY DETERMINATION

Volume V

APPENDIX E:

Louisiana Coastal Resources Program Consistency Determination

**CONSISTENCY DETERMINATION
LOUISIANA COASTAL ZONE MANAGEMENT PROGRAM
LCA Terrebonne Basin Barrier Shoreline Restoration
Terrebonne and Lafourche Parish, Louisiana**

INTRODUCTION

Section 307 of the Coastal Zone Management Act of 1972, 16 U.S.C. 1451 et. seq. requires that "each federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs." In accordance with Section 307, a Consistency Determination has been prepared for the proposed LCA Terrebonne Basin Barrier Shoreline Restoration, located in Terrebonne and Lafourche Parish, Louisiana. Coastal Use Guidelines were written in order to implement the policies and goals of the Louisiana Coastal Resources Program, and serve as a set of performance standards for evaluating projects. Compliance with the Louisiana Coastal Resources Program, and therefore, Section 307, requires compliance with applicable Coastal Use Guidelines.

PROJECT DESCRIPTION

The main objective and goal for this project, LCA Terrebonne Basin Barrier Shoreline Restoration, is to restore the geomorphological form and ecological function of the Isles Dernieres and Timbalier Barrier Islands. Specific objectives of this project are to:

- Restore the minimized barrier island conditions that provide the geomorphic form and ecologic function of the Terrebonne Basin barrier island, reducing volume loss within the TBBSR project area below the historic average (1880 through 2005).
- Restore and improve various barrier island habitats that provide essential habitats for fish, migratory birds, and other terrestrial and aquatic species, mimicking, as closely as possible, conditions which occur naturally in the area for the 50 year period of analysis.
- Increase sediment input to supplement long-shore sediment transport processes along the gulf shoreline by mechanically introducing compatible sediment, and increasing the ability of the restored area to continue to function and provide habitat for the 50 year period of analysis with minimum continuing intervention.

The natural processes of subsidence and erosion have combined with human-caused effects leading to significant shoreline retreat and land loss along the Terrebonne Basin barrier island chain. Construction of levees along the Mississippi River to prevent flooding has effectively

stopped the nourishment of the wetlands with riverine nutrients and sediments. Confinement of the Mississippi has also caused its bedload to be deposited in progressively deeper waters of the GOM. In addition, the sediment load of the river has declined by over 50% due to flood control works and bank stabilization upstream. The latter two factors have prevented the Mississippi River sediments from nourishing the barrier islands (USACE, 2004a).

The Isles Dernieres and Timbalier Island Ranges consist of Raccoon, Whiskey, Trinity, East, Wine, Timbalier, and East Timbalier Islands (Figure 1). These islands are expected to be impacted by multiple tropical weather events over the next several decades. Each storm poses the risk of breaching the existing islands. As a result, these barrier islands will continue to degrade and migrate landward as an increasingly fragmented chain of smaller barrier islands. The fragmentation of the barrier islands will progressively increase the risk of a single storm event causing widespread fundamental changes in the hydrodynamics and ecological function of the interior bay system. Based on historical trends, a direct hurricane or tropical storm impact can be expected on a frequent basis.

Without action, this critical geomorphic feature that isolates the Terrebonne Basin estuaries from the Gulf of Mexico will continue to degrade, existing breaches will widen and new breaches will form, and portions of the project area will disappear in the near term. For example, Raccoon, Whiskey, Trinity, East, and Wine Island are expected to completely disappear by 2052 if no action is taken. By 2062, Timbalier and East Timbalier will only have six acres of subaerial habitat left.

NER Plan

The NER Plan includes the restoration of Raccoon Island to its minimal geomorphologic form and ecologic function along with twenty-five (25) years of advanced fill (Plan E) and construction of a terminal groin. This plan also includes restoration of Whiskey and Trinity Islands to their minimal geomorphologic form and ecologic function along with five (5) years of advanced fill (Plan C) and restoration of Timbalier Island to its minimal geomorphologic form and ecologic function along with twenty-five (25) years of advanced fill (Plan E). Approximately 5,840 acres would be restored for Alternative 5 (NER Plan).

The NER plan cannot be constructed under the current WRDA 2007 authorization. Therefore, the Whiskey Island plan, a single-island increment of the NER, has been proposed as the first component of construction. The USACE will seek additional authorization in order to construct additional increments of the NER Plan. Therefore, this Coastal Zone Consistency Determination pertains to the NER.

Whiskey Island Plan C

Immediately after construction (TY1), Whiskey Island Plan C will add 469 acres of habitat (dune, intertidal, and supratidal) to the existing island footprint, increasing the size of the island to 1,272 acres (Figure 2). Whiskey Plan C was designed to avoid approximately 286 acres of existing mangroves on the island to minimize the ecologic impact during construction. Plan C was also designed to complement TE-50, which is an existing CWPPRA project that was

constructed in 2009. TE-50 created approximately 316 acres of intertidal back-barrier marsh between the two existing mangrove stands. The recommended component of construction will utilize marsh material from the Whiskey 3a borrow area and beach/dune material from the Ship Shoal borrow area (Figure 3).

Whiskey Plan C will require two renourishment intervals. The first will occur at TY20 and will include the addition of the same amount of dune and supratidal beach habitat that was originally created in TY1 (i.e. add a Plan C to the template at TY20). The second renourishment interval will occur at TY40 and will include the addition of the same amount of dune and supratidal beach habitat needed to construct a Plan B template. No additional marsh material will be added.

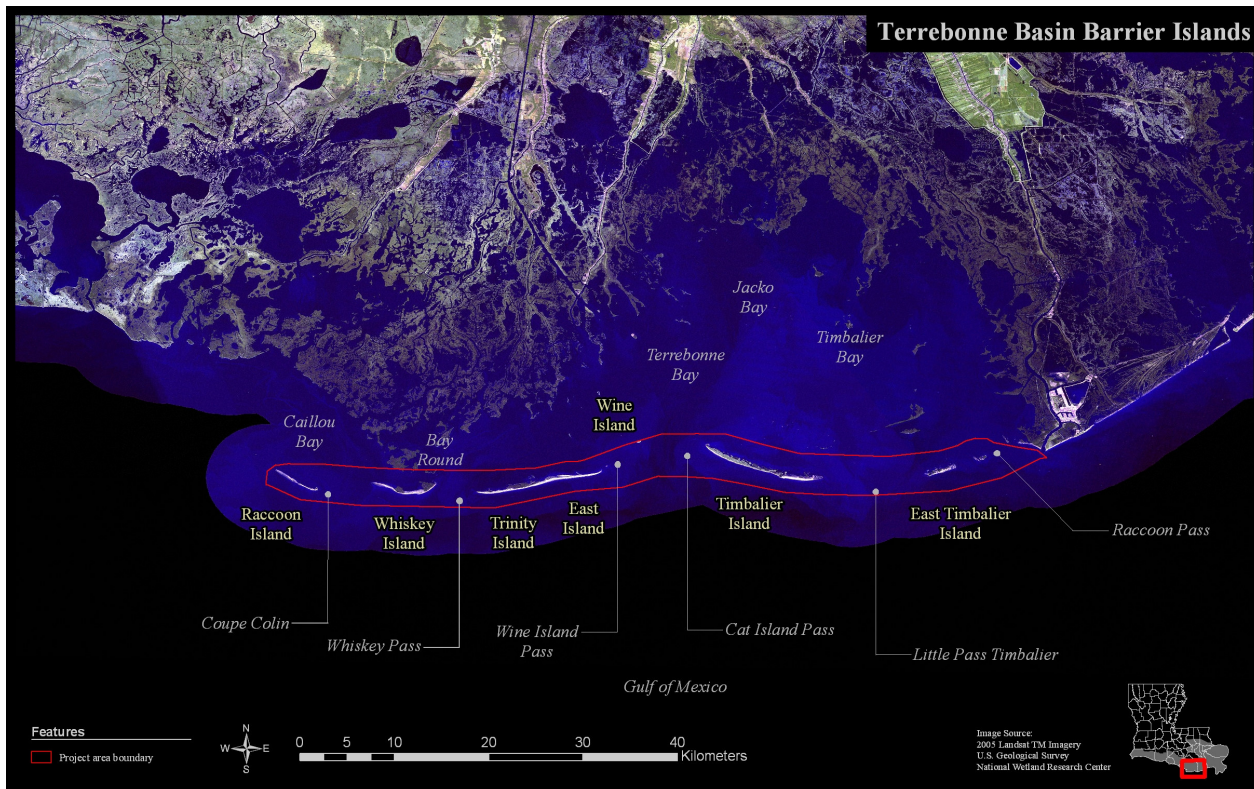


Figure 1. Project Area



Figure 2. Whiskey Island Plan C – First Component of Construction

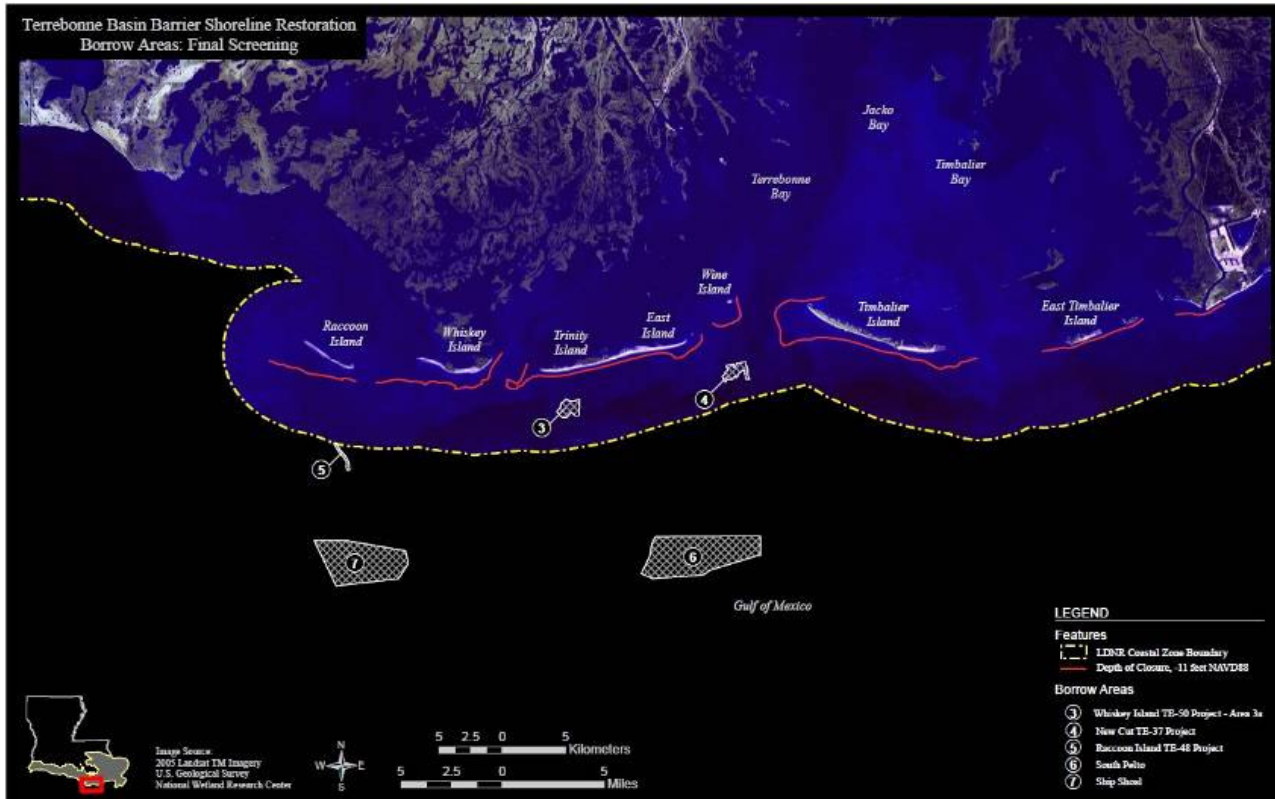


Figure 3. Proposed Borrow Areas

Trinity Plan C

Immediately after construction (TY1), the Trinity Plan C will add 585 acres of habitat (dune, intertidal, and supratidal) to the existing 564-acre island footprint, increasing the size of the island to 1,149 acres. This includes 129 acres of dune, 456 acres of supratidal, and 564 acres of intertidal habitat.

Trinity Plan C will utilize beach/dune material from Ship Shoal and marsh material from the Whiskey 3A borrow area. Fill quantities for the dune/beach and marsh components of Trinity Plan C are 3.8 million and 3.8 mcy, respectively. For the dune area, the material will be pumped from the dredge to the beach. The material will then be worked on the beach by bulldozers and front-end loaders. For the marsh area, the material will be pumped from the offshore borrow site. Containment dikes will be constructed around the perimeter. Sediment for the containment dikes will be dredged from existing material inside the marsh creation area. These operations will be completed in a manner that will minimize turbidity of the water at the dredge site and the discharge site. Figure 4 presents the plan view of Trinity Plan C.

Approximately 22,500 ft of sand fencing will be installed to promote deposition of windblown sand, create dune features, reduce trampling of existing dunes by beach visitors, and protect vegetative plantings. Vegetative plantings will include a variety of native species. The recommended planting density is no greater than 8-ft centers.

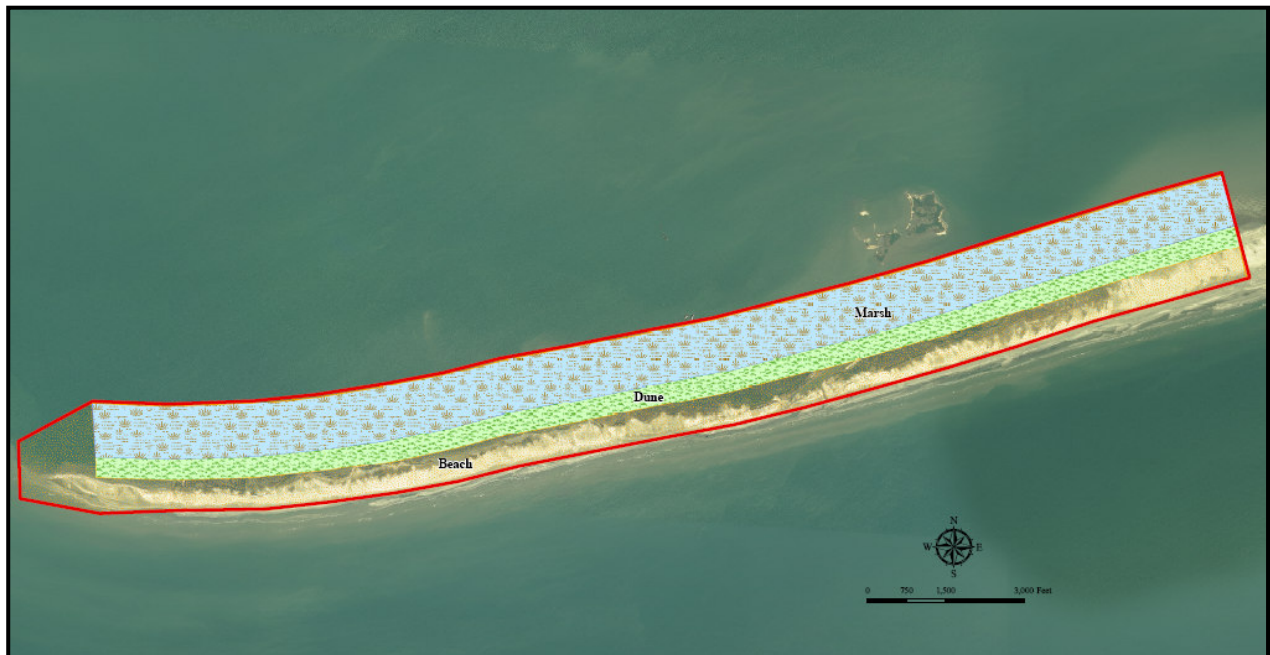


Figure 4. Trinity Island Plan C.

Raccoon Island Plan E with Terminal Groin

Immediately after construction (TY1), the Raccoon Plan E will add 554 acres of habitat (dune, intertidal, and supratidal) to the existing 235-acre island footprint, increasing the size of the island to 789 acres. This includes 63 acres of dune, 688 acres of supratidal, and 38 acres of intertidal habitat.

Eight detached and segmented breakwaters were constructed as part of a CWPPRA project (TE-29) in 1997. The breakwaters were installed to reduce shoreline retreat, promote sediment deposition along the beach, and to protect seabird habitat. Due to the success of the TE-29 breakwaters, eight additional breakwaters were constructed as part of a separate CWPPRA project (TE-48) that was completed in 1997. The breakwaters were installed west of the original breakwaters. TE-48 also included the creation of approximately 60 acres of emergent and intertidal back-barrier marsh.

Raccoon Plan E was designed to complement the intertidal marsh created as part of TE-48. Plan E was also designed to avoid approximately 58 acres of existing mangroves immediately adjacent to and gulfward of TE-48 (Figure 5).

A terminal groin will also be constructed as part of Raccoon Island Plan E. The terminal groin will be approximately 1200 ft long and 75 ft wide and will be installed at the western terminus of the template to prevent sediment migration out of the Isle Dernieres system.

Fill quantities for the dune/beach and marsh components of Raccoon Plan E are 5.4 million and 4.6 mcy, respectively. The plan will utilize beach/dune material from Ship Shoal and marsh material from the Raccoon Island TE-48 borrow area. However, the borrow area does not have enough material to construct the marsh in its entirety. Therefore, approximately 2.8 mcy of sand will be dredged from Ship Shoal to provide a base layer for the marsh. The marsh material from the Raccoon Island TE-48 borrow area will be deposited on the sand material to provide an adequate foundation for the marsh.

For the dune area, the material will be pumped from the dredge to the beach. The material will then be worked on the beach by bulldozers and front-end loaders. For the marsh area, the material will be pumped from the offshore borrow site. Containment dikes will be constructed around the perimeter. Sediment for the containment dikes will be dredged from existing material inside the marsh creation area. These operations will be completed in a manner that will minimize turbidity of the water at the dredge site and the discharge site. Figure 5 presents the plan view of Raccoon Plan E and the proposed terminal groin.

Approximately 12,200 ft of sand fencing will be installed to promote deposition of windblown sand, create dune features, reduce trampling of existing dunes by beach visitors, and protect

vegetative plantings. Vegetative plantings will include a variety of native species. The recommended planting density is no greater than 8-ft centers.

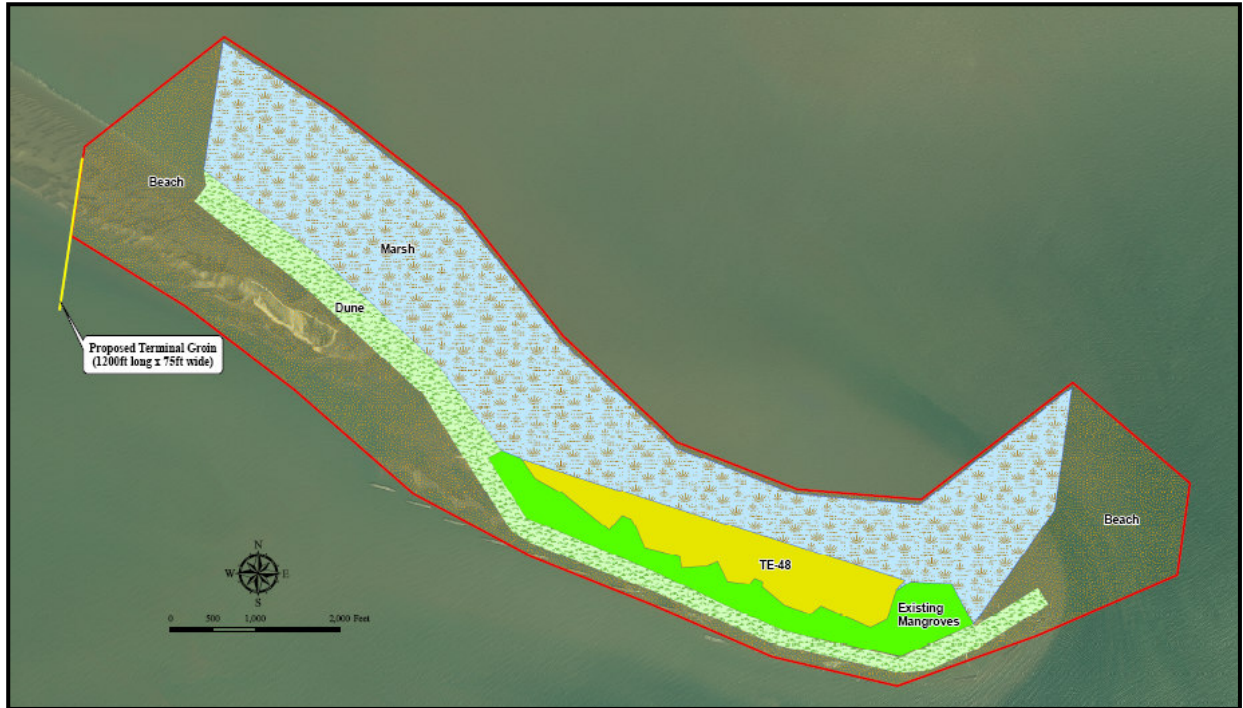


Figure 5. Raccoon Island Plan E with Terminal Groin.

Timbalier Island Plan E

Timbalier Plan E proposes a dune height of +7.1 ft NAVD 88 with a dune crown width of 100 ft. The slopes of the beach and dune are set 60:1 and 30:1 (horizontal to vertical), respectively. The marsh fill is proposed on the landward side of the dune at an elevation of +3.2 ft NAVD 88. As with Raccoon Island Plan E, the elevations of the plan are larger than that of Trinity and Whiskey because it is designed to withstand a longer period of background erosion. Furthermore, the larger plans are thicker and thus exhibit higher compaction rates.

Immediately after construction (TY1), the Timbalier Plan E will add 1675 acres of habitat (dune, intertidal, and supratidal) to the existing 955-acre island footprint, increasing the size of the island to 2,630 acres. This includes 215 acres of dune, 2346 acres of supratidal, and 69 acres of intertidal habitat.

Fill quantities for the dune/beach and marsh components of Timbalier Plan E are 10.7 million and 9.1 mcy, respectively. Timbalier Plan E will utilize beach/dune material from South Pelto and marsh material from Whiskey 3A (marsh material). However, the marsh borrow areas do not have adequate material to construct the marsh in its entirety. Therefore, approximately 8.6 mcy of sand will be dredged from South Pelto, Whiskey 3A (sandy material), and New Cut to

provide a base layer for the marsh. The marsh material from Whiskey 3A will be deposited on the sand material to provide an adequate foundation for the marsh.

For the dune area, the material will be pumped from the dredge to the beach. The material will then be worked on the beach by bulldozers and front-end loaders. For the marsh area, the material will be pumped from the offshore borrow site. Containment dikes will be constructed around the perimeter. Sediment for the containment dikes will be dredged from existing material inside the marsh creation area. These operations will be completed in a manner that will minimize turbidity of the water at the dredge site and the discharge site. Figure 6 presents the plan view of Timbalier Plan E.

Approximately 35,500 ft of sand fencing will be installed to promote deposition of windblown sand, create dune features, reduce trampling of existing dunes by beach visitors, and protect vegetative plantings. Vegetative plantings will include a variety of native species. The recommended planting density is no greater than 8-ft centers.



Figure 6. Timbalier Plan E.

GUIDELINES

1. Guidelines Applicable to All Uses

Guideline 1.1: The guidelines must be read in their entirety. Any proposed use may be subject to the requirements of more than one guideline or section of guidelines and all applicable guidelines must be complied with.

Response: Acknowledged.

Guideline 1.2: Conformance with applicable water and air quality laws, standards, and regulations, and with those other laws, standards and regulations which have been incorporated into the coastal resources program shall be deemed in conformance with the program except to the extent that these guidelines would impose additional requirements.

Response: Acknowledged.

Guideline 1.3: The guidelines include both general provisions applicable to all uses and specific provisions applicable only to certain types of uses. The general guidelines apply in all situations. The specific guidelines apply only to situations they address. Specific and general guidelines should be interpreted to be consistent with each other. In the event there is an inconsistency, the specific should prevail.

Response: Acknowledged.

Guideline 1.4: These guidelines are not intended to, nor shall they be, interpreted so as to result in an involuntary acquisition or taking of property.

Response: Acknowledged.

Guideline 1.5: No use or activity shall be carried out or conducted in such a manner as to constitute a violation of the terms of a grant or donation of any lands or water bottoms to the State or any subdivision thereof. Revocations of such grants and donations shall be avoided.

Response: The NER Plan would not cause violations or revocations of such grants or donations.

Guideline 1.6: Information regarding the following general factors shall be utilized by the permitting authority in evaluating whether the proposed use is in compliance with the guidelines.

- a) type, nature, and location of use.
- b) elevation, soil, and water conditions and flood and storm hazard characteristics of site.
- c) techniques and materials used in construction, operation, and maintenance of use.
- d) existing drainage patterns and water regimes of surrounding area including flow, circulation, quality, quantity, and salinity; and impacts on them.
- e) availability of feasible alternative sites or methods for implementing the use.

- f) designation of the area for certain uses as part of a local program.
- g) economic need for use and extent of impacts of use on economy of locality.
- h) extent of resulting public and private benefits.
- i) extent of coastal water dependency of the use.
- j) existence of necessary infrastructure to support the use and public costs resulting from the use.
- k) extent of impacts on existing and traditional uses of the area and on future uses for which the area is suited.
- l) proximity to and extent of impacts on important natural features such as beaches, barrier islands, tidal passes, wildlife and aquatic habitats, and forest lands.
- m) the extent to which regional, state, and national interests are served including the national interest in resources and the siting of facilities in the coastal zones as identified in the coastal resources program.
- n) proximity to, and extent of, impacts on special areas, particular areas, or other areas of particular concern of the state program or local programs.
- o) likelihood of, and extent of impacts, resulting secondary impacts and cumulative impacts.
- p) proximity to, and extent of, impacts on public lands or works, or historic, recreational or cultural resources.
- q) extent of impacts on navigation, fishing, public access, and recreational opportunities.
- r) extent of compatibility with natural and cultural setting.
- s) extent of long-term benefits or adverse impacts.

Response: All of the above are acknowledged

Guideline 1.7: It is the policy of the coastal resources program to avoid the following adverse impacts. To this end, all users and activities shall be planned, sited, designed, and constructed, operated, and maintained to avoid to the maximum extent practicable significant:

- a) reductions in the natural supply of sediment and nutrients to the coastal system by alterations of freshwater flow.

Response: The proposed project will introduce sediments into the coastal system and will not impact nutrient supply or freshwater flow.

- b) adverse economic impacts on the locality of the use and affected governmental bodies.

Response: Long-term economic benefits to the region and nation are anticipated as a result of project implementation. Improved habitat for fish and wildlife, reduction in conversion of marsh to open water, reduction in storm surge, and improved recreational benefits would result upon project completion.

- c) detrimental discharges of inorganic nutrient compounds into coastal waters.

Response: There would be a temporary increase in the concentration of inorganic nutrient compounds near the dredging/clearing and/or construction locations due to resuspension

of sediments during dredging operations. Any effects are expected to be minor and would only occur during actual dredging and construction operations.

d) alterations in the natural concentration of oxygen in coastal waters.

Response: Biological oxygen demand (BOD) in the dredge plume in the borrow area(s) or project area will likely be greater than surrounding water if the disturbed sediments have a high organic content. The decrease in dissolved oxygen accompanying high BOD could result in a localized hypoxic water column or bottom-water conditions. The increased turbidity will be localized and the dredge plume is expected to impact water quality in a surface area of 5-10 areas. Ambient oxygen concentrations would return once dredging operations were completed.

e) destruction or adverse alterations of streams, wetland, tidal passes, inshore waters and water bottoms, beaches, dunes, barrier islands, and other natural biologically valuable areas or protective coastal features.

Response: The NER Plan will initially create (FWP-FWOP) 3,283 acres of barrier island habitat, including 387 acres of dune, 3,168 acres of supratidal, and -271 acres of intertidal habitat. By TY5, the project will net 323 acres of intertidal habitat as the elevation of the supratidal habitat settles to within the intertidal zone. The net benefit of the project will offset any adverse effects to streams, tidal passes, beaches, dunes, barrier islands, or protective coastal features. The Impacts associated with dredging access and access channels are unavoidable and would result in a brief variation in bottom topography.

f) adverse disruption of existing social patterns.

Response: The area is remote, accessible only by boat or aircraft, and uninhabited. Adverse social impacts might occur temporarily from the rerouting of recreational boat traffic near dredging operations. However, any disruptions would be short-term and are not expected to disrupt existing social patterns.

g) alterations of the natural temperature regime of coastal waters.

Response: Project construction would not cause a measurable change in the natural temperature regime of coastal waters, effecting only the Gulf of Mexico and Caillou Boca. Temporary and localized increases in water temperatures might occur with increased turbidity during dredging operations; however, temperatures would return to ambient levels following completion of dredging operations.

h) detrimental changes in existing salinity regimes.

Response: No detrimental change in existing salinity regimes would occur.

i) detrimental changes in littoral and sediment transport processes.

Response: This plan would not adversely affect littoral or sediment transport processes. Sediment will be added to the system thus increasing the sediment available for longshore transport. The proposed terminal groin on Timbalier Island will trap a portion of the sediment being transported west via longshore transport. This will reduce the loss of sediment from the Terrebonne Barrier Shoreline system.

j) adverse effects of cumulative impacts.

Response: Adverse or cumulative impacts to the NER are described in Section 5 of the Integrated Feasibility Study and Final Environmental Impact Statement.

k) detrimental discharges of suspended solids into coastal waters, including turbidity resulting from dredging.

Response: This project will increase turbidity in the immediate area of dredging. Turbidity is expected to return to ambient conditions once dredging is completed. During sediment emplacement, suspended particulate matter in the receiving water may increase in a limited area and would likely have minimal effects on water quality. Drilling mud discharge from OCS operations, exhumed contaminants, or trash and debris present in the dredged material could also become suspended during emplacement within the fill area.

l) reductions or blockage of water flow or natural circulation patterns within or into an estuarine system or wetland forest.

Response: Circulation patterns would not be altered for any estuarine systems.

m) discharges of pathogens or toxic substances into coastal waters.

Response: No pathogens would be discharged.

n) adverse alteration or destruction of archaeological, historical, or other cultural resources.

Response: Appropriate cultural resources clearance will be obtained prior to any dredging or construction activities.

o) fostering of detrimental secondary impacts in undisturbed or biologically highly productive wetland areas.

Response: No detrimental secondary impacts are expected in undisturbed or biologically highly productive wetlands.

p) adverse alteration or destruction of unique or valuable habitats, critical habitat for endangered species, important wildlife or fishery breeding or nursery areas, designated wildlife management or sanctuary areas, or forest lands.

Response: The project will be constructed within the Isles Dernieres Barrier Islands Refuge. Critical habitat for piping plover (*Charadrius melodus*), which includes intertidal beaches, mudflats, sand flats, algal flats, and wash-over passes may be temporarily impacted by the proposed project. The project area also includes nesting habitat for species of special interest including the brown pelican and colonial nesting birds. The Biological Assessment and Main Report contain a protection plan for these species. The temporary impacts will be offset by the long-term net benefit provided by restoration of the beach, dune, and backbarrier marsh habitats. There could be temporary displacement of wildlife and aquatic organisms away from dredging and disposal sites due to turbidity and physical disturbance by construction equipment; however, the project would ultimately increase the quantity and quality of available habitats for terrestrial and aquatic organisms to utilize.

q) adverse alteration or destruction of public parks, shoreline access points, public works, designated recreation areas, scenic rivers, or other areas of public use and concern.

Response: No such areas would be adversely impacted.

r) adverse disruptions of coastal wildlife and fishery migratory patterns.

Response: No adverse disruptions of wildlife and fishery migratory patterns are anticipated to occur. There could be temporary displacement of wildlife and fishery organisms away from dredging and disposal sites due to turbidity and physical disturbance by construction equipment. However, any such impacts would be minimally disruptive since most fish and wildlife in the area are mobile and would move to adjacent undisturbed areas during construction activities.

s) land loss, erosion, and subsidence.

Response: No land loss, erosion, or subsidence would result from the proposed project. The effect from this project would be a net gain in wetland habitat.

t) increases in the potential for flood, hurricane, or other storm damage, or increases in the likelihood that damage will occur from such hazards.

Response: The proposed project would not increase flooding potential.

u) reductions in the long-term biological productivity of the coastal ecosystem.

Response: The proposed project would not result in long-term reduction of biological productivity; to the contrary, the project is intended to increase biological productivity.

Guideline 1.8: In those in which the modifier "maximum extent practicable" is used, the proposed use is in compliance with the guideline if the standard modified by the term is

complied with. If the modified standard is not complied with, the use will be in compliance with the guideline if the permitting authority finds, after a systematic consideration of all pertinent information regarding the use, the site, and the impacts of the use as set forth in Guideline 1.6, and a balancing of their relative significance, that the benefits resulting from the proposed use would clearly outweigh the adverse impacts resulting from noncompliance with the modified standard and there are no feasible and practical alternative locations, methods, and practices for the use that are in compliance with the modified standard and:

- a) significant public benefits will result from the use, or;
- b) the use would serve important regional, state, or national interests, including the national interest in resources and the siting of facilities in the coastal zone identified in the coastal resources program, or;
- c) the use is coastal water dependent.

The systematic consideration process shall also result in a determination of those conditions necessary for the use to be in compliance with the guideline. Those conditions shall assure that the use is carried out utilizing those locations, methods, and practices which maximize conformance to the modified standard; are technically, economically, environmentally, socially, and legally feasible and practical and minimize or offset those adverse impacts listed in guideline 1.7 and in the guideline at issue.

Response: Acknowledged.

Guideline 1.9: Uses shall, to the maximum extent practicable, be designed and carried out to permit multiple concurrent uses which are appropriate for the location and to avoid unnecessary conflicts with other uses of the vicinity.

Response: The purpose of the proposed project is for improved habitat (fish and wildlife) and recreational use. After construction, recreational pursuits would be encouraged to the maximum extent practicable.

Guideline 1.10: These guidelines are not intended to be, nor shall they be, interpreted to allow expansion of governmental authority beyond that established by La. R.S. 49:213.1 through 213.21, as amended; nor shall these guidelines be interpreted so as to require permits for specific uses legally commenced or established prior to the effective date of the coastal use permit program nor to normal maintenance or repair of such uses.

Response: Acknowledged.

2. Guidelines for Levees

Guideline 2.1: The leveeing of unmodified or biologically productive wetlands shall be avoided to the maximum extent practicable.

Response: No permanent levees will be constructed that would disrupt biologically productive wetlands. Dikes will be constructed to contain beach and marsh fill material. These dikes will be constructed in a manner so that they will subside/degrade naturally so as to minimize impacts to natural hydrology.

Guideline 2.2: Levees shall be planned and sited to avoid segmentation of wetland areas and systems to the maximum extent practicable.

Response: See Guideline 2.1.

Guideline 2.3: Levees constructed for the purpose of developing or otherwise changing the use of a wetland area shall be avoided to the maximum extent practicable.

Response: No levees associated with this project would encourage or cause development or change the use of wetlands.

Guideline 2.4: Hurricane and flood protection levees shall be located at the wetland/non-wetland interface or landward to the maximum extent practicable.

Response: The project does not include construction of hurricane or flood protection levees.

Guideline 2.5: Impoundment levees shall only be constructed in wetland areas as part of approved water or marsh management projects or to prevent release of pollutants.

Response: No permanent levees will be constructed that would disrupt biologically productive wetlands. Dikes will be constructed to contain beach and marsh fill material. These dikes will be constructed in a manner so that they will subside/degrade naturally so as to minimize impacts to natural hydrology.

Guideline 2.6: Hurricane or flood protection levee systems shall be designed, built, and thereafter operated and maintained utilizing best practical techniques to minimize disruptions of existing hydrologic patterns, and the interchange of water, beneficial nutrients and aquatic organisms between enclosed wetlands and those outside the levee system.

Response: The project area does not include construction of hurricane or flood protection levees.

3. Guidelines for Linear Facilities

Guideline 3.1: Linear use alignments shall be planned to avoid adverse impacts on areas of high biological productivity or irreplaceable resource areas.

Response: Acknowledged. Temporary dredge pipeline placement will be planned to avoid areas of high biological productivity or irreplaceable resource areas.

Guideline 3.2: Linear facilities involving the use of dredging or filling shall be avoided in wetland and estuarine areas to the maximum extent practicable.

Response: This project involves the restoration of a barrier island which includes, subtidal, intertidal, and supratidal placement of dredged materials. Existing wetlands will be avoided to the maximum extent practicable to maximize the net benefit of the project.

Guideline 3.3: Linear facilities involving dredging shall be of the minimum size and length.

Response: Acknowledged.

Guideline 3.4: To the maximum extent practicable, pipelines shall be installed through the "push ditch" method and the ditch backfilled.

Response: Acknowledged.

Guideline 3.5: Existing corridors, right-of-way, canals, and streams shall be utilized to the maximum extent practicable for linear facilities.

Response: Acknowledged.

Guideline 3.6: Linear facilities and alignments shall be, to the maximum extent practicable, designed and constructed to permit multiple uses consistent with the nature of the facility.

Response: Temporary disruption to multiple uses of the project area may occur during dredging operations, but would be restored following project completion.

Guideline 3.7: Linear facilities involving dredging shall not traverse or adversely affect any barrier island.

Response: The proposed project involves the restoration of a barrier island. The benefit will outweigh any unavoidable adverse impacts associated with project construction.

Guideline 3.8: Linear facilities involving dredging shall not traverse beaches, tidal passes, protective reefs or other natural gulf shoreline unless no other alternative exists. If a beach, tidal pass, reef or other natural gulf shoreline must be traversed for a non-navigation canal, they shall be restored at least to their natural condition immediately upon completion of construction. Tidal passes shall not be permanently widened or deepened except when necessary to conduct the use. The best available restoration techniques which improve the traversed area's ability to serve as a shoreline shall be used.

Response: Acknowledged. See response to Guideline 3.7.

Guideline 3.9: Linear facilities shall be planned, designed, located, and built using the best practical techniques to minimize disruption of natural hydrologic and sediment transport patterns, sheet flow, and water quality, and to minimize adverse impacts on wetlands.

Response: Acknowledged.

Guideline 3.10: Linear facilities shall be planned, designed, and built using the best practical techniques to prevent bank slumping and erosion, saltwater intrusion, and to minimize the potential for inland movement of storm-generated surges. Consideration shall be given to the use of locks in navigation canals and channels which connect more saline areas with fresher areas.

Response: Acknowledged.

Guideline 3.11: All non-navigation channels, canals and ditches which connect more saline areas with fresher areas shall be plugged at all waterway crossings and at intervals between crossings in order to compartmentalize them. The plugs shall be properly maintained.

Response: Acknowledged.

Guideline 3.12: The multiple use of existing canals, directional drilling and other practical techniques shall be utilized to the maximum extent practicable to minimize the number and size of access canals, to minimize changes of natural systems and to minimize adverse impacts on natural areas and wildlife and fisheries habitats.

Response: Acknowledged.

Guideline 3.13: All pipelines shall be constructed in accordance with parts 191, 192, and 195 of Title 49 of the Code of Federal Regulations, as amended, and in conformance with the Commissioner of Conservation's Pipeline Safety Rules and Regulations and those safety requirements established by LA R.S. 45:408, whichever would require higher standards.

Response: Acknowledged.

Guideline 3.14: Areas dredged for linear facilities shall be backfilled or otherwise restored to the pre-existing conditions upon cessation of use for navigation purposes to the maximum extent practicable.

Response: Acknowledged.

Guideline 3.15: The best practical techniques for site restoration and re-vegetation shall be utilized for all linear facilities.

Response: Acknowledged.

Guideline 3.16: Confined and dead end canals shall be avoided to the maximum extent practicable. Approved canals must be designed and constructed using the best practical techniques to avoid water stagnation and eutrophication.

Response: The proposed project would not construct confined or dead end canals.

4. Guidelines for Dredged Spoil Deposition

Guideline 4.1: Spoil shall be deposited utilizing the best practical techniques to avoid disruption of water movement, flow, circulation, and quality.

Response: Acknowledged. All dredged material will be deposited in a manner that is beneficial to the restoration project.

Guideline 4.2: Spoil shall be used beneficially to the maximum extent practicable to improve productivity or create new habitat, reduce or compensate for environmental damage done by dredging activities, or prevent environmental damage. Otherwise, existing spoil disposal areas or upland disposal shall be utilized to the maximum extent practicable rather than creating new disposal areas.

Response: Acknowledged.

Guideline 4.3: Spoil shall not be disposed of in a manner which could result in the impounding or draining of wetlands or the creation of development sites unless spoil deposition is part of an approved levee or land surface alteration project.

Response: Dredged material will be used beneficially in the construction of the beach, dune, or intertidal areas. Temporary dikes will be constructed to contain the dredged material during the dewatering process. These dikes are anticipated to subside and degrade over time thus preventing the formation of a permanent impoundment.

Guideline 4.4: Spoil shall not be disposed of on marsh, known oyster or clam reefs, or in areas of submerged vegetation to the maximum extent practicable.

Response: This project was designed to avoid existing back barrier marsh/mangrove habitat to the maximum extent practicable. Some emergent marsh will be covered with fill material. However, the long term habitat benefits created by the project outweigh the impacts associated with project construction. No dredged material will be placed on known oyster or clam reefs.

Guideline 4.5: Spoil shall not be disposed of in such a manner as to create a hindrance to navigation or fishing, or hinder timber growth.

Response: No hindrance to navigation, fishing, and timber growth would occur. The project area may be unavailable for fishing activities during construction; however, alternative fishing areas exist nearby and fishing access would be restored after construction.

Guideline 4.6: Spoil disposal areas shall be designed and constructed and maintained using the best practicable techniques to retain the spoil at the site, reduce turbidity, and reduce shoreline erosion when appropriate.

Response: Acknowledged. The project involves placing hydraulically dredged material in designated areas for barrier island construction. Every effort will be made to retain the material on the site. Best management practices will be used to minimize turbidity associated with dredging and runoff.

Guideline 4.7: The alienation of state-owned property shall not result from spoil deposition activities without the consent of the Department of Natural Resources.

Response: No state-owned properties would be alienated by deposition of dredged material.

5. Guidelines for Shoreline Modification

Guideline 5.1: Non structural methods of shoreline protection shall be utilized to the maximum extent practicable.

Response: Acknowledged. The project is a non structural method of shoreline restoration.

Guideline 5.2: Shoreline modification structures shall be designed and built using best practical techniques to minimize adverse impacts.

Response: Acknowledged

Guideline 5.3: Shoreline modification structures shall be lighted or marked in accordance with U.S. Coast Guard regulations, to not interfere with navigation, and they should foster fishing, other recreational opportunities, and public access.

Response: Acknowledged.

Guideline 5.4: Shoreline modification structures shall be built using best practical techniques to avoid the introduction of pollutants and toxic substances into coastal waters.

Response: Acknowledged.

Guideline 5.5: Piers and docks and other harbor structures shall be designed and built using best practical techniques to avoid obstruction of water circulation.

Response: The proposed action would not construct any piers, docks or other harbor structures.

Guideline 5.6: Marinas and similar commercial and recreational developments shall to the maximum extent practicable not be located so as to result in adverse impacts on open productive oyster beds, or submerged grass beds.

Response: The proposed action would not construct any marinas or similar commercial or recreational developments.

Guideline 5.7: Neglected or abandoned shoreline modification structures, piers, docks, mooring and other harbor structures shall be removed at the owner's expense, when appropriate.

Response: Acknowledged.

Guideline 5.8: Shoreline stabilization structures shall not be built for the purpose of creating fill areas for development unless part of an approved surface alteration use.

Response: Acknowledged.

Guideline 5.9: Jetties, groins, breakwaters and similar structures shall be planned, designed and constructed so as to avoid to the maximum extent practicable downstream land loss and erosion.

Response: Acknowledged.

6. Guidelines for Surface Alterations

Guideline 6.1: Industrial, commercial, urban, residential, and recreational uses are necessary to provide adequate economic growth and development. To this end, such uses will be encouraged in those areas of the coastal zone that are suitable for development. Those uses shall be consistent with the other guidelines and shall, to the maximum extent practicable, take place only:

- a) on lands five feet or more above sea level or within fast lands; or
 - b) on lands which have foundation conditions sufficiently stable to support the use, and where flood and storm hazards are minimal or where protection from these hazards can be reasonably well achieved, and where the public safety would not be unreasonably endangered; and
- 1) the land is already in high intensity of development use, or
 - 2) there is adequate supporting infrastructure, or
 - 3) the vicinity has a tradition of use for similar habitation or development.

Response: Acknowledged.

Guideline 6.2: Public and private works projects such as levees, drainage improvements, roads, airports, ports, and public utilities are necessary to protect and support needed development and shall be encouraged. Such projects shall, to the maximum extent practicable, take place only when:

- a) they protect or serve those areas suitable for development pursuant to Guideline 6.1; and
- b) they are consistent with other guidelines; and
- c) they are consistent with all relevant adopted state, local, and regional plans.

Response: Acknowledged.

Guideline 6.3: Blank (Deleted by LA Department of Natural Resources).

Guideline 6.4: To the maximum extent practicable, wetland areas shall not be drained or filled. Any approved drain or fill project shall be designed and constructed using best practical techniques to minimize present and future property damage and adverse environmental impacts.

Response: This project was designed to avoid existing back barrier marsh/mangrove habitat to the maximum extent practicable. Some emergent marsh will be covered with fill material. However, the long term habitat benefits created by the project outweigh the impacts associated with project construction.

Guideline 6.5: Coastal water-dependent uses shall be given special consideration in permitting because of their reduced choice of alternatives.

Response: Acknowledged.

Guideline 6.6: Areas modified by surface alteration activities shall, to the maximum extent practicable, be revegetated, refilled, cleaned, and restored to their pre-development condition upon termination of the use.

Response: Acknowledged.

Guideline 6.7: Site clearing shall, to the maximum extent practicable, be limited to those areas immediately required for physical development.

Response: Acknowledged.

Guideline 6.8: Surface alterations shall, to the maximum extent practicable, be located away from critical wildlife areas and vegetation areas. Alterations in wildlife preserves and management areas shall be conducted in strict accord with the requirements of the wildlife management body.

Response: The restoration project is located on the Isles Dernieres Barrier Islands Refuge which is managed by the LA Department of Wildlife and Fisheries. The proposed action

has been coordinated with LA Department of Wildlife and Fisheries, US Fish and Wildlife, and National Marine Fisheries Service.

Guideline 6.9: Surface alterations which have high adverse impacts on natural functions shall not occur, to the maximum extent practicable, on barrier islands and beaches, isolated cheniers, isolated natural ridges or levees, or in wildlife and aquatic species breeding or spawning areas, or in important migratory routes.

Response: The proposed action has been coordinated with the US Fish and Wildlife Services and the National Marine Fisheries Service to minimize impacts to threatened and endangered species and their critical habitat. The proposed action would involve activities in the habitat of the piping plover, Kemp's ridley and loggerhead sea turtles, brown pelican, and colonial nesting waterbirds. The PDT is currently conducting a Biological Assessment to assess potential direct and indirect impacts to the piping plover and associated critical habitat and for the endangered and threatened sea turtles. Furthermore, restrictions placed on activities to minimize disturbance to colonial nesting birds will be observed.

Guideline 6.10: The creation of low dissolved oxygen conditions in the water or traps for heavy metals shall be avoided to the maximum extent practicable.

Response: Low dissolved oxygen conditions may occur during dredging operations and as a result of increased turbidity. However, any such construction-related conditions would be of short duration and would return to ambient conditions after construction activities were completed. Seasonal hypoxia occurs offshore of the barrier islands in the vicinity of Ship Shoal and the other borrow areas. Borrow areas will be designed to minimize the potential for creating or exacerbating the hypoxic conditions offshore.

Guideline 6.11: Surface mining and shell dredging shall be carried out utilizing the best practical techniques to minimize adverse environmental impacts.

Response: Not applicable.

Guideline 6.12: The creation of underwater obstructions which adversely affect fishing or navigation shall be avoided to the maximum extent practicable.

Response: No underwater obstructions would be created.

Guideline 6.13: Surface alteration sites and facilities shall be designed, constructed, and operated using the best practical techniques to prevent the release of pollutants or toxic substances into the environment and minimize other adverse impacts.

Response: Acknowledged.

Guideline 6.14: To the maximum extent practicable, only material that is free of contaminants and compatible with the environmental setting shall be used as fill.

Response: The excavated material is expected to be free of contaminants, based on the HTRW survey for the project area.

7. Guidelines for Hydrologic and Sediment Transport Modifications

Guideline 7.1: The controlled diversion of sediment laden waters to initiate new cycles of wetland building and sediment nourishment shall be encouraged and utilized whenever such diversion will enhance the viability and productivity of the outfall area. Such diversions shall incorporate a plan for monitoring and reduction and/or amelioration of the effects of pollutants present in the freshwater source.

Response: Not applicable.

Guideline 7.2: Sediment deposition systems may be used to offset land loss, to create or restore wetland areas or enhance building characteristics of a development site. Such systems shall only be utilized as part of an approved plan. Sediment from these systems shall only be discharged in the area that the proposed use is to be accomplished.

Response: Not applicable.

Guideline 7.3: Undesirable deposition of sediments in sensitive habitat or navigation areas shall be avoided through the use of the best preventive techniques.

Response: Acknowledged.

Guideline 7.4: The diversion of freshwater through siphons and controlled conduits and channels, and overland flow to offset saltwater intrusion and to introduce sediment and nutrients into wetlands shall be encouraged and utilized whenever such diversion will enhance the viability and productivity of the outfall area. Such diversions shall incorporate a plan for monitoring and reduction and/or amelioration of the effects of pollutants present in the freshwater source.

Response: Not applicable.

Guideline 7.5: Water or swamp management plans shall result in an overall benefit to the productivity of the area.

Response: Not applicable.

Guideline 7.6: Water control structures shall be assessed separately based on their individual merits and impacts and in relation to their overall water or marsh management plan of which they are a part.

Response: Not applicable.

Guideline 7.7: Weirs and similar water control structures shall be designed and built using the best practical techniques to prevent “cut arounds,” permit tidal exchange in tidal areas, and minimize obstruction to the migration of aquatic organisms.

Response: Acknowledged.

Guideline 7.8: Impoundments which prevent normal tidal exchange and/or the migration of aquatic organisms shall not be constructed in brackish and saline areas to the maximum extent practicable.

Response: Acknowledged.

Guideline 7.9: Withdrawal of surface and ground water shall not result in saltwater intrusion or land subsidence to the maximum extent practicable.

Response: Not applicable.

8. Guidelines for the Disposal of Wastes

Response: The proposed action would not involve the disposal of wastes and, therefore, these guidelines are not applicable.

9. Guidelines for Uses That Result in the Alteration of Waters Draining into Coastal Waters

Response: The proposed action would not involve the alterations of waters draining into coastal waters, and, therefore, these guidelines are not applicable.

10. Guidelines for Oil, Gas, and Other Mineral Activities

Response: The proposed action would not involve oil, gas, or other mineral activities, and, therefore, these guidelines are not applicable.

CONSISTENCY DETERMINATION

Based on this evaluation, it is proposed that the NER Plan would be consistent, to the maximum extent practicable, with the State of Louisiana's approved Coastal Resources Program.

BOBBY JINDAL
GOVERNOR



ROBERT D. HARPER
SECRETARY

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

August 6, 2010

Joan Exnicios
Chief, Environmental Branch
Corps of Engineers- New Orleans District
P.O. Box 60267
New Orleans, LA 70160-0267

RE: **C20100188**, Coastal Zone Consistency
New Orleans District, Corps of Engineers
Direct Federal Action
LCA Terrebonne Basin Barrier Shoreline Restoration Project, **Terrebonne Parish,**
Louisiana

Dear Ms. Exnicios:

The above referenced project has been reviewed for consistency with the Louisiana Coastal Resources Program in accordance with Section 307 (c) of the Coastal Zone Management Act of 1972, as amended. The project, as proposed in this application, is consistent with the LCRP, provided the Corps complies with LDWF stipulations that the Corps concurred with in email of July 28, 2010.

If you have any questions concerning this determination please contact Brian Marcks of the Consistency Section at (225) 342-7939 or 1-800-267-4019.

Sincerely yours,

Gregory J. DuCote
Administrator
Interagency Affairs/Field Services Division

GJD/JDH/bgm

cc: William Klein, COE-NOD
Bren Haase, OCPR
Dave Butler, LDWF
Rod Pierce, OCM FI
James Miller, Terrebonne Parish