

DRAFT ENVIRONMENTAL ASSESSMENT

FISHER SCHOOL BASIN JEAN LAFITTE, LOUISIANA

OCTOBER 1998

EA# 271

INTRODUCTION

This Environmental Assessment has been prepared to evaluate the potential impacts associated with flood control protection measures for Fisher School Basin in Jean Lafitte, Louisiana. The proposed action would involve the improvement of existing levees, the construction of a levee, and the construction of floodwall segments to enable the area to adequately withstand an exterior tidal event and to experience a 10-year rainfall event without substantial residual flooding. This document is prepared in accordance with the National Environmental Policy Act of 1969, as reflected by the U.S. Army Corps of Engineers (USACE) Regulation ER 200-2-2. The following sections include a discussion of the need for the proposed action, alternatives to the proposed action, significant resources affected, and the impacts of the proposed action.

AUTHORITY

The New Orleans District conducted this study under the authority of Section 205 of the 1948 Flood Control Act, as amended, in response to requests for Federal flood control assistance from officials of the Town of Jean Lafitte.

PURPOSE AND NEED

The existing levee system was constructed by the West Jefferson Levee District in response to hurricane damages and, therefore, the level of protection was not evaluated at that time. The existing protection has since been deemed insufficient due to its varying heights and gaps in the alignment. As such, extreme high tides accompanied by heavy rainfall or storms have caused residual flooding in the study area. Extended duration weak hurricanes, such as Juan, have produced storm surges of sufficient height to overtop existing protective embankments and flood the area inhabited by some 2,000 people. The purpose of the proposed action is to adequately withstand an exterior tidal

event and to experience a 10-year rainfall event without substantial residual flooding.

DESCRIPTION OF THE PROPOSED ACTION

The proposed action would be located within the Town of Jean Lafitte in Jefferson Parish, Louisiana (Plates 1 and 2). The protection would include features consisting of earthen levee enlargement, levee creation, and floodwall and floodgate construction to enhance flood protection. The proposed alignment of the flood protection initiates on the east bank of Bayou Barataria at a location 1,800 feet south of the Louisiana Highway 302 Bridge. From this point, the alignment proceeds north along the natural ridge of Bayou Barataria; thence east along the bankline of the Intracoastal Waterway to intersect with Canal E1. From this point, the alignment commences south; parallel to Canal E1; thence west to tie into an existing levee at the North Canal. From this point; the alignment commences south to the Gloria Drive Pump Station; thence east and south around the rear of Oak Drive; thence west to intersect with the natural ridge of Bayou Barataria at the point of origin. The protection system would follow existing levee alignments as closely as possible to minimize adverse impacts to the natural environment and private landholdings (Plates 3, 4, and 5).

The proposed action would involve hauling to the site, approximately 133,000 cubic yards of earthen fill material from an offsite commercial source for elevating about 3.0 miles of levee. The final elevation of the proposed levee would be 7.0 feet National Geodetic Vertical Datum (NGVD) with 1 on 4 side slopes. The import of fill material to the project area would occur, by truck, via LA Highway 45. From the highway, the trucks would access the levee construction site via Gloria Drive, Canal St., Radio Tower Road, and Dardar St.

Levee construction could require up to several dozen truckloads of fill per day. Material hauling would occur during daytime hours. All project construction would occur in 2-2.5 years, but not at any given location for more than six months. In addition to the levees, at least 3 segments of concrete-capped, sheetpile floodwall would be constructed along Bayou Barataria with 11 swing-type floodgates. The total length of the floodwalls would be approximately 7,300 feet and the elevation would be 7.0 feet NGVD. The exact combination of floodgates, floodwalls, and levees along Bayou Barataria would be determined during detailed design. Environmental impacts would not change, but floodgates and floodwalls which are more expensive may be needed rather than levees to satisfy requests of some landowners. Cross-sections of the proposed levees, floodwalls, and floodgates are presented in Plates 6, 7, and 8.

PRIOR REPORTS

A flood protection reconnaissance study and report entitled "Jean Lafitte, Louisiana, Fisher School Basin" was prepared in November 1994. The document established existing conditions, determined the extent and magnitude of the problem, and developed an alternative solution to flooding problems in Fisher School Basin.

ALTERNATIVES CONSIDERED

Alternatives to the proposed action were considered. These alternatives were: (1) No-Action, and (2) Non-structural flood protection, and (3) Structural levee design.

No-Action Alternative

Under the no-action alternative, the proposed action would not be performed by the USACE. The study area would continue to experience flooding under this alternative. Flood damage to new developments would be moderated by participation in the National Flood Insurance Program. The West Jefferson Levee District's efforts to implement flood control improvements would be restricted based on funding limitations. Some work would be accomplished, but the extent would be limited.

Non-structural Alternatives

Non-structural alternatives such as flood proofing, raising structures, and flood warning systems were considered during the feasibility phase. Flood proofing and raising structures were economically justifiable alternatives; however, the net benefits provided are significantly less than the structural alternative. Flood warning systems were not an acceptable solution without additional structural improvements to the existing levee.

Levee and Floodwall (Proposed Action)

A levee design was developed based on the November 1994 reconnaissance report. The levee is designed to protect the Fisher Basin against damage due to flooding caused by a 10-year storm event. The recommended plan involves raising approximately 4.6 miles of an existing earthen levee to elevation 7.0' NGVD. Roughly 3.0 miles of the levee would be composed of earthen fill from an offsite location. The remaining 1.6 miles of the levee alignment would consist of three concrete-capped sheetpile floodwalls with 11 roller-type floodgates.

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8

ENVIRONMENTAL SETTING

GENERAL

The project area, situated on the Westbank of the Mississippi River in southern Jefferson Parish, is more specifically located on the eastern bank of Bayou Barataria, east of the confluence of Bayou Barataria, Bayou Villars, and the Gulf Intracoastal Waterway. The dominant physiographic features in the project vicinity typically include abandoned distributaries of the Mississippi River, natural levees, inland lakes and bayous, low lying swamps and marshes, and small interconnected lakes, bayous, and man-made canals. The project area, which encompasses approximately 425 acres, is located on the deltaic alluvial plain of the Mississippi River and is generally characterized by low relief and gentle slope. Elevations of natural ground typically range from a maximum of approximately 4 feet NGVD along the levee ridges of Bayou Barataria to a minimum of approximately -1.0 foot NGVD within leveed areas of the eastern part of the study area. Marshes in the unleveed eastern portions of the study area typically exhibit natural ground elevations which average between 0.5 and 1.0 foot NGVD.

The physiographic and topographic features of the study area create an environment which has been extremely prone to flooding from elevated Mississippi River stages and storm-induced tidal surges. At present, the threat of Mississippi River flooding has been alleviated by levees constructed as part of the Mississippi River and Tributaries Flood Control Project. Storm surges, however, are a continuing threat to the study area. The storm surges, usually related to tropical storm systems originating in the Gulf of Mexico, can easily travel across the broken marsh and through Bayou Barataria and numerous other natural and man-made channels thereby threatening the study area with inundation.

CLIMATE

The study area has a subtropical marine climate. Located in a subtropical latitude, its climate is influenced by the many water surfaces of lakes, streams, and the Gulf of Mexico. Throughout the year, these water bodies modify the relative humidity and temperature conditions decreasing the range between the extremes. When southerly winds prevail, these effects are increased, imparting the characteristics of a marine climate. The annual normal temperature recorded at the LSU Citrus Research Station during the period from 1961 to 1990 is 60.1 degrees Fahrenheit (/F) with monthly mean temperature normals varying from 42.5 /F in January to 73.7 /F in July. Temperature extremes between 1984 and 1992 were 97 /F for a high and 12 /F for a low. The total average annual precipitation recorded at the LSU Citrus Research Station is 62.85 inches. Of this, 34.11 inches, or

54.3 percent usually falls between April and September. The heaviest 1-day rainfall recorded was 8.73 inches on August 2, 1984.

Climatic conditions in the area from April through September are influenced by tropical air masses from the Gulf of Mexico and, from October through March, by cold air masses from the northern continental United States. The result is a humid, subtropical climate with mild winters and long, hot summers. During the summer, prevailing southerly winds produce conditions favorable for afternoon thunderstorms. Thunderstorms occur on about 70 days each year. Hurricanes are dominant low-pressure weather systems that can affect coastal and inland portions of Louisiana and the Gulf Coast between June 1 and November 30. Tornadoic activity generally parallels the summer hurricane season in Louisiana. In the colder seasons, the area is subjected to frontal movements that produce squalls and sudden temperature drops. River fogs are prevalent in the winter and spring when the temperature of the Mississippi River is somewhat colder than the air temperature.

SOILS

The United States Department of Agriculture - Natural Resources Conservation Service has surveyed and classified the soils within the study area. According to this survey, the study area is comprised of five soil series which include: Barbary Muck; Sharkey Clay; Sharkey Silty Clay Loam; Commerce Silt Loam; and Lafitte-Clovely Association. These soils are described as follows:

Barbary Muck - Barbary Muck is a poorly drained soil at low elevations between the natural levee of the streams and marshes. The water level is at or above the surface most of the year. Surface runoff is almost nonexistent and permeability is very slow.

Sharkey Clay - Sharkey Clay is a level, poorly drained clay soil on the low natural levees of the Mississippi River and its distributaries. Surface water runoff occurs at a slow rate. The seasonally high water table fluctuates between a depth of 1.0 and 2.0 feet during rainy seasons.

Sharkey Silty Clay Loam - Sharkey Silty Clay Loam is a firm soil on the low natural levees of the Mississippi River and its distributaries. The water table is within 15 inches of the surface during rainy seasons. Permeability and surface water runoff are very slow.

Commerce Silt Loam - Commerce Silt Loam is a level, somewhat poorly drained soil at high elevations on natural levees of the Mississippi River and its distributaries. This soil occupies some of the highest elevations in the project area. Surface water runoff occurs at a slow rate. The seasonally high water table fluctuates between a depth of 1.5 and 4 feet.

Lafitte-Clovelly Association- Lafitte-Clovelly Association is a level, very poorly drained soil which occurs at low elevations on subsided natural levees and interlevee basins. This soil is frequently flooded. The water table, under normal conditions, ranges from a low of 0.5 foot below the surface to a high of 1.0 foot above the surface. Soil permeability is high in organic layers and very low in clayey layers.

Most of the soil types in the study area would settle upon loading, would shrink and oxidize upon dewatering, and have low shear strengths. Therefore, settlement sensitive structures should be pile supported.

SIGNIFICANT RESOURCES

This section contains a description of significant resources and the impacts of the proposed action on these resources. The significant resources described in this section are those recognized by laws, executive orders, regulations, and other standards of national, state, or regional agencies and organizations. Criteria used to evaluate these resources are displayed in Tables 1 and 2.

Table 1. ATTRIBUTES OF SIGNIFICANT RESOURCES IN JEAN LAFITTE

Resource	Ecological Attributes	Cultural Attributes	Aesthetic Attributes
WETLANDS	Provide diverse habitat for fish and wildlife. Source of detritus for the aquatic food web.	Supports the traditional extractive economy of the Barataria Basin.	Sounds, sights, and smells provide a pleasing alternative to farms and towns in the area. Provides an escape from urbanization.
WILDLIFE	Numerous species utilize the study area.	Supports traditional commercial and recreational activities. Provided resources to historic and prehistoric settlers.	Viewing and hearing animals in their natural setting is pleasing to inhabitants and visitors.
FISHERIES	Fish and shellfish provide a food source to wildlife.	Fish and shellfish gathering are a traditional part of the local heritage and economy.	Pleasant to view fish swimming in natural habitat.
CULTURAL RESOURCES	Sites often indicate the nature of prehistoric and historic ecological attributes.	Indicators of history and previous inhabitants of the area	Many cultural resources have high aesthetic value to inhabitants and visitors.
THREATENED AND ENDANGERED SPECIES	These species indicate stress on the ecological system.	The bald eagle is a national symbol; and others have been important commercial and recreational interests.	Enjoyment comes to many while viewing a rare species.
RECREATION	The harvest of fish and wildlife can be an important ecological factor. Sportsmen appreciate and respect plant and animal life for their unique ecological characteristics.	Association with the outdoors is part of the area's heritage. Jean Lafitte National Historical Park; Bayou Segnette State Park; and Salvador WMA are nearby.	Recreation flourishes in outdoor, natural settings.
AIR QUALITY	Poor air quality can negatively affect plant and animal life.	Poor air quality affects traditional outdoor activities, recreation, and commerce.	Good air quality enhances the scenic value of the area.
NOISE	Excessive noise levels could cause the relocation of less tolerant species.	Excessive noise deteriorates the traditional outdoors association of the area.	The sounds of nature are valued in this suburban setting.
FARMLANDS	Plant life associated with farms provides air quality benefits.	Farming has been a historical part of the local heritage.	Sights and sounds are a pleasing alternative to urban sprawl.

Table 2. RECOGNITION OF SIGNIFICANT RESOURCES

Resource	Institutional Recognition	Technical Recognition	Public Recognition
WETLANDS	Clean Water Act of 1977, Coastal Zone Management Act of 1972, Louisiana State and Local Coastal Resources Management Act of 1978, Fish and Wildlife Coordination Act, EO 11990, EO 11988.	Habitat for 14 species of special emphasis (USFWS). Louisiana losing 30 mi ² marsh per year.	Environmental organization and many individuals support preservation of wetlands.
WILDLIFE	Fish and Wildlife Coordination Act, Clean Water Act, Louisiana Water Control Act.	Fourteen species of special emphasis in project area. USFWS, NMFS, LDWF, LDNR, and USACE recognize value of wildlife.	Resource is of importance to consumptive and to non-consumptive users. Environmental groups and many individuals support preservation of wildlife needed habitat.
FISHERIES	Clean Water Act, Fish and Wildlife Coordination Act, Louisiana Water Control Act, EO 11988, EO 11990.	USFWS, NMFS, LDWF, and USACE recognize value of fisheries and necessary water quality.	Environmental organizations and many individuals support water quality and fisheries resources.
THREATENED AND ENDANGERED SPECIES	Endangered Species Act, Bald Eagle Act.	Bald eagle nest located over one mile from project. USFWS, NMFS, LDWF, and USACE cooperate to protect. Audubon Blue List recognizes rare species.	Environmental organizations and many individuals support preservation and enhancement of rare species. High degree of interest in resource.
RECREATION	Land and Water Conservation Fund Act of 1965.	Many fishing and hunting person-days are logged. Various facilities exist which currently satisfy numerous user-days of recreation annually.	Public makes high demands on recreation areas.
CULTURAL RESOURCES	National Historic Preservation Act, Archaeological Resource Protection Act.	Sites are present in the vicinity of the proposed action.	The public and preservation groups support protection and enhancement of historical resources.
HTRW	RCRA, CERCLA, E.O. Order 12088, State of La. Safety and health regulations (40 CFR 1920), OSHA standard 29 CFR 1910.120	Contaminants (not at HTRW levels) have been found in the area of the proposed action.	Public expects protection from hazardous materials.

Table 2 Continued. **RECOGNITION OF SIGNIFICANT RESOURCES**

AIR QUALITY	Clean Air Act of 1990, Louisiana Air Control Act	Jefferson Parish and the project area have been designated as complying with ozone standards.	The public values clean air and expects protection from air pollutants.
NOISE	Noise Control Act of 1972, National Environmental Policy Act of 1969	Day-Night Noise Level Standards have been established based on land use types.	The public values a noise free environment for the pursuit of home and outdoor activities.
FARMLANDS	Farmland Protection Policy Act, P.L. 97-98	USDA recognizes the value of unique and prime farmlands	The public recognizes the need for farmland as a means to supply consumptive demands.

WETLANDS

EXISTING CONDITIONS: Forested wetlands of the project area are under extreme developmental pressures, primarily being cleared for single family dwellings. Much of the southern half of the project area has been enclosed by a levee constructed by local interests and has been under pump for some time. Although currently unleveed, forested wetlands within the northern portion of the project area are experiencing identical developmental pressures.

Within the extreme southern end of the project area, 17.5 acres of fresh swamp are currently enclosed by an existing levee. This habitat is characterized by the occurrence of a few remaining baldcypress and tupelogum trees; however, the area primarily consists of a dense growth of young woody vegetation having an average height of less than 25 feet. Because of the denseness of the canopy, the area is virtually devoid of ground cover.

Within the mid to northern reach of the project area are 79.6 acres of early successional bottomland hardwood (BLH) habitat. The predominant species within this habitat include sugarberry, Chinese tallow-tree, red maple, black wouldow, American elder, eastern false-willow, and blackberry. This habitat resembles a scrub-shrub community, having tree species with a diameter at breast height of generally less than 5 inches.

There are several many live oak trees on the Fleming property that are of concern, including several in particular along Bayou Barataria. Generally, live oaks in this area of Louisiana are under stress from a high water table and are in a very fragile state. The banks along the bayou have eroded to the point where many of the tree roots are now exposed. These trees are under stress from a combination of the erosion and the high water table and can withstand no additional impacts and survive for long.

NO ACTION: After a thorough review of color infrared photographs beginning in 1974 through 1995, combined with a field reconnaissance of the project area (including the proposed levee alignment), biologists representing the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the local sponsor (West Jefferson Levee District) concluded that within the next 15 years (by the year 2012), all of the forested wetlands (94.7 acres) that would be enclosed within the proposed levee alignment would be lost to development in the future without-project condition. In other words, even if the levee were not constructed, those wetlands would be lost to ongoing developments (i.e., primarily single family dwellings). These developments would continue to expand via construction on pilings or on hauled-in fill material, to the FEMA - approved elevation. It is

unlikely, however, that forested wetlands (i.e., fresh swamp) on the unprotected side of the existing levee along the southeastern perimeter of the project area would be cleared for development.

Most of the live oak trees in the area would continue to survive in a stressed condition for several decades provided that no disturbances occur on the ground below or around them. However, the erosion along Bayou Barataria would likely result in the demise of the oaks along its bank in 15 to 20 years. Unfortunately, efforts to stabilize the bank could kill the stressed trees rather than save them.

LEVEE AND FLOODWALL: Within the extreme southern end of the project area, enlargement of the existing levee would result in the direct loss of 2.4 acres of the 17.5 acre fresh swamp. Within the mid to northern reach of the project area, levee construction would cause the direct loss of 8.0 acres of the 79.6 acre early successional BLH habitat.

Levee systems such as that currently being proposed have historically become the line of demarcation, discouraging future developments on the unprotected side. As such, they serve to protect adjacent, functionally valuable wetlands. The currently existing levee provides such a benefit to adjacent wetlands. Unfortunately, continued subsidence in the future is likely to convert wetlands outside the existing/future levee system from swamp to marsh and, to some extent, open water within the next 50 years.

In August 1997, the previously referenced biologists quantified the loss in habitat value associated with the direct, project-induced loss of 2.4 acres of fresh swamp and 8 acres of early successional bottomland hardwood habitat. The Wetland Value Assessment (WVA) methodology used to evaluate restoration projects, developed under Section 303 of the Federal Coastal Wetlands Planning, Protection and Restoration Act, was used to quantify that loss in habitat value. Using the WVA, habitat quality and quantity are assessed for baseline conditions and are predicted for future without-project and future with-project conditions.

Using various parameters, the WVA evaluates entire communities (e.g., bottomland hardwoods and fresh swamp). The 7 parameters assessed for bottomland hardwoods are tree species association, stand maturity, understory/midstory percentage, hydrology, forest size, surrounding land use, and disturbance. The 6 parameters assessed for fresh swamp are stand structure (percent cover), stand maturity (either known age or diameter at breast height), hydrology, forest size, surrounding land use, and disturbance.

The habitat unit is the basic unit of the WVA, which quantifies the effects on fish and wildlife habitat. Habitat units are the product of a habitat suitability index (HSI) and the acreage of affected habitat at a given target year. The HSI, which is a relative measure of the quality of a particular habitat type, is determined by assessing the parameters identified in the previous paragraph. An HSI of 0.0 represents no habitat value; an HSI of 1.0 represents optimum habitat value.

Habitat units fluctuate in response to changes in the HSI (habitat quality) and/or acres (habitat quantity). Those changes in quality and quantity are predicted for various target years over the anticipated life of a project, for future without-project and future with-project scenarios.

Target years selected for this project were 0 (baseline), 1, 15, and 50. HSI values were established from site visits to the area and from a review of aerial photographs and reports documenting fish and wildlife habitat conditions in the study area and similar habitats.

The products of the resultant HSI values and the habitat acreage were summed and annualized to determine the Average Annual Habitat Units (AAHU's) available for each habitat type. Comparison of the AAHU's available under the future with-project and future without-project conditions indicated that implementation of the proposed project would cause the permanent loss of 0.74 AAHU's of fresh swamp and 2.34 AAHU's of early successional bottomland hardwoods. Attachment A contains copies of the detailed WVA data analysis.

Construction of a floodwall along Bayou Barataria would likely kill the large live oak trees on the Fleming property much sooner than the estimated 15-20 years they would survive with no disturbance. If the floodwall is moved several feet out from the bank, no fill would be placed behind the floodwall above the bayou water level, and no activity would occur on the land under or within several feet of the crowns of the trees. The trees may live the full 15-20 years that we estimate they have remaining if no activity occurs around them.

WILDLIFE

EXISTING CONDITIONS: Because the remaining forested wetlands in the project area are of relatively low quality and have been adversely affected by forced drainage and developmental disturbances, they are considered of low value as wildlife habitat. Wildlife which may be evidenced in the project area include various species of reptiles and amphibians, resident and

migratory passerine birds, rabbits, squirrels, various rodents, and the nine-banded armadillo.

NO-ACTION: Wildlife habitat within the levee system, albeit very limited and of low value, is expected to be virtually eliminated within the next 15 years due to residential development. Habitat outside of the levee system would support different species assemblages as it transitions from swamp to marsh to open water.

LEVEE AND FLOODWALL: Construction of the proposed levee would permanently eliminate 2.4 acres of fresh swamp and 8 acres of early successional bottomland hardwood habitat. These areas currently serve as moderate value habitat for rabbits, squirrels and a variety of passerine birds.

FISHERIES

EXISTING CONDITIONS: Bayou Barataria supports a variety of fish species including blue and channel catfish, freshwater drum, buffalo, largemouth bass, and spotted, long nose and alligator gar. Saltwater species such as anchovies and striped mullet also inhabit the bayou (USACE, 1976) indicating that a transition of salinity conditions occurs in the general area. Open water in the project area is limited to borrow canals/ditches that are of extremely low value to fishery resources because of their poor water quality and shallow depth. The only fish species that is likely to occur with some regularity within the project area is the mosquitofish.

NO ACTION: Fishery conditions in Bayou Barataria may become more saltwater oriented during the next 50 years unless the anticipated freshwater introduction benefits from diversions at Davis Pond and other areas are realized.

LEVEE AND FLOODWALL: Fishery habitat within the project area is currently limited to interior ditches and depressions. Levee construction, in conjunction with pumping by the local sponsor, would totally eliminate fishery habitat from within the project area.

THREATENED AND ENDANGERED SPECIES

EXISTING CONDITIONS: The only species of concern near the project area is the bald eagle, an endangered species. A nest is located in the vicinity, over a mile from the project area.

NO-ACTION: The bald eagle nest would continue to be used for the foreseeable future unless encroaching development stresses cause the eagle to relocate. Unless abated, continued

saltwater encroachment could cause the death of the baldcypress nesting tree.

LEVEE AND FLOODWALL: In its September 13, 1994, Planning Aid Report, the U.S. Fish and Wildlife Service indicated that no Federally listed threatened or endangered species presently occurs within the proposed project area. However, the U.S. Fish and Wildlife Service noted that, if project construction had not been initiated within one year, follow-up consultation should be accomplished prior to making expenditures for construction.

On December 20, 1996, CEEC (representative of the local sponsor) consulted with personnel of the U.S. Fish and Wildlife Service regarding the potential for the proposed project to impact threatened or endangered species. Ms. Terry Rabot of the U.S. Fish and Wildlife Service confirmed at that time that an active eagle nest still occurred in the area but was located in excess of one mile from the project area. Accordingly, she did not believe that the proposed project would adversely affect the eagles. The U.S. Fish and Wildlife Service did request, however, that it be consulted again immediately prior to executing a contract for construction to ensure that no adverse impacts to endangered species would occur.

CULTURAL RESOURCES

EXISTING CONDITIONS: The lower Barataria region has been used by man in both prehistoric and historic times. Archaeological records concerning prehistoric sites in the region indicate that extensive colonization was initiated during the Marksville period (200-400 A.D.) and continued throughout much of the prehistoric period. Historical records concerning the region indicate that European settlement in the region began in the early 1700's. Both prehistoric and historic sites are known to exist within the immediate vicinity of the project area.

One site, identified as the Oyster Road Site (16JE84), is located within the project area at its southwest corner. The site is a prehistoric Indian shell midden which in 1977 occupied 32.5 meters along the bank of Bayou Barataria. In 1984, the site was examined and found to be severely eroded and completely wave washed. Due to the damages found at that time, the site was deemed ineligible for nomination to the National Register of Historic Places (NRHP). A recent examination, conducted in July 1995, revealed no evidence of shell or cultural remains.

A second reported site, the Fleming/Berthoud Cemetery (16JE36), is located within the project area near the shoreline of Bayou Barataria at the intersection of Bayou Villars. This site contains the remains of both prehistoric and historic

components. The prehistoric component includes a Marksville through Mississippi period shell midden deposit and a large Indian mound. The historic component includes a cemetery dug into the Indian mound and the remains of the Mavis Grove/Fleming Plantation. The prehistoric components of (16JE36) were reported as eligible for nomination to the NRHP in 1975 and 1986, however these sites are not currently listed in the NRHP. The Mavis Grove/Fleming Plantation main house is presently listed in the NRHP.

NO-ACTION: The Oyster Road site (16JE84) has eroded into Bayou Barataria and is totally destroyed. Remnants of the site that remain would continue to be washed away by erosional forces.

The prehistoric shell midden component of the Fleming/Berthoud site (16JE36) has experienced some erosion along Bayou Bartaria. Rip-rap placed along the bankline is protecting the midden at this time; however, without continued intervention, the midden would likely be impacted again in the future. The prehistoric Indian mound component of the Fleming/Berthoud site has been used for interments in historic and modern times. This usage is expected to continue. The historic plantation component of the Fleming/Berthoud site is suffering from neglect. This component would continue to deteriorate without intervention.

LEVEE AND FLOODWALL: A visual and subsurface examination of the Oyster Road (16JE84) site in July 1995, by archaeologist from Earth Search, Inc., revealed no evidence of shell or cultural materials. It has been concluded that the site is destroyed and no longer eligible or potentially eligible for nomination to the NRHP. Consequently, the proposed project would not impact any significant cultural resources at this site.

Both the prehistoric and historic components of the Fleming/Berthoud (16JE36) site have been archaeologically investigated. No intact cultural deposits associated with either the historic or prehistoric components were found within the project corridor. Planned construction would therefore have no adverse effect on this significant site. The improvements to the levee system would likely benefit the cemetery by stabilizing the eroding shoreline.

The proposed has been coordinated with the Louisiana State Historic Preservation Officer (SHPO) and is in compliance with Section 106 of the National Historic Preservation Act. A letter of no-objection from the Louisiana SHPO is presented in Attachment B.

RECREATIONAL RESOURCES

EXISTING CONDITIONS: Urban type recreation facilities, found within and north of the study area, include: National and State Parks; local parks, playgrounds, and swimming pools; and ballparks and tennis courts. Natural resource related facilities, found within and surrounding the study area, include: picnic areas, camp sites, and hiking trails; wildlife refuges and management areas, and numerous water bodies; and private and public fishing piers and boat launches. The primary users of these facilities are the residents of southeast Louisiana; however, residents of Louisiana and the nation also frequent the area. Predominant recreational activities are freshwater and saltwater fishing, including fin-fishing, crawfishing, and crabbing and shrimping. Other recreational activities include big game, small game and migratory bird hunting, boating, swimming, and camping. The three major recreational areas of significance adjacent to the area are the Lake Cataouatche-Lake Salvador complex (which includes the Salvador Wildlife Management Area), the Jean Lafitte National Historical Park and Preserve, and the Bayou Segnette State Park. It is estimated that 75,000-150,000 recreational users visit the Jean Lafitte National Historical park and Preserve, Barataria Preserve Unit each year according to the National Park Service statistics.

NO-ACTION: Future recreational use of the study area should increase due to: the proximity of natural areas such as Lake Cataouatche-Lake Salvador (including the Salvador Wildlife Management Area), Jean Lafitte Natural Historical Park, and Bayou Segnette State Park; the availability of numerous access points to the areas natural resources; and the rapid rate of development presently occurring in the vicinity. These anticipated increases in recreational use would not significantly affect any of the Federal and State parks or management areas in the vicinity; however, public facilities at the Parish and local levels could eventually be strained by increasing usage demands. Commercial facilities would likely adapt, on the basis of supply and demand, to meet future recreational access demands. Continue flooding, experienced without the proposed project, would adversely affect existing and future recreation opportunities by limiting accessibility during and immediately following such events. Expenditures related to flood recovery could also limit the feasibility of providing viable recreation opportunities at the local and commercial level.

LEVEE AND FLOODWALL: Implementation of the proposed project would not cause any significant impact to recreation areas or activities within the project vicinity. Minor impacts to the shoreline of Bayou Barataria, during construction, would likely result in a localized disturbance of aquatic wildlife and a diminished level of accessibility for adjacent landowners and the public. Minimal impacts would also be imposed on existing recreational activities occurring on the levees, such as walking,

jogging, birdwatching, and nature study. Any such impacts would be localized and limited to the construction period and would be minimized by the application of construction controls such as silt curtains. The proposed project would yield positive immediate and long-term effects to recreation areas by providing enhanced flood protection to existing sites and stimulating potential development of new sites.

Coordination with Federal, State, and local agencies has been accomplished with respect to recreational impacts of the proposed project. No comments have been received as a result of the coordination solicitations.

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

EXISTING CONDITIONS: The results of historic land use research indicates that the study area was undeveloped prior to the mid to late twentieth century. In the nineteenth century it was part of the Mavis Grove Plantation. Sugar was grown in the region and the lumber industry boomed in the late nineteenth century. Jean Lafitte can be labeled a line settlement, having expanded down the high land along the natural levee of Bayou Baratavia. Development has been both residential and commercial.

Industry in the area is associated with fishing or with oil and gas support services. Industrial development appears to have been somewhat concentrated in the lower portion of the town. Map and historical photograph analysis provides insufficient evidence to determine the purpose of structures in the lower reach of the study area.

The EPA National Priorities List (NPL - Superfund Sites) of the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) was investigated through personal contacts with Mr. Don Markham of EPA Region 6 on March 7, 1997. No sites from the project area were identified on the NPL at that time. The EPA Resource Conservation and Recovery Information System (RCRIS) list for Lafitte was obtained on March 7, 1997. The list indicated that no hazardous waste treatment, storage, disposal, or transportation facilities are located within the project vicinity; however, the list did reveal that five hazardous waste generators are reporting in the project vicinity. Several generators are no longer active. Of the active generators, none were located within two miles of the project area. The Louisiana Department of Environmental Quality, Louisiana Site Remediation Information System (LASRIS) list, which shows inactive and abandoned sites, lists one location (Watts Construction Company) in Jean Lafitte. The site is located over three miles northeast of the project area.

NO-ACTION: Hazardous, toxic, and radioactive waste (HTRW) problems are unlikely along the majority of the proposed alignment with the exception of 3 sites which were determined to be of moderate to high risk. No change in the likelihood of occurrence or location of toxic materials would be expected without this project.

LEVEE AND FLOODWALL: Implementation of the proposed action would LIKELY result in the testing and clean-up of 3 sites of potential concern. Several other waste sites, which were not deemed to be significant, would also require removal to allow for construction. The proposed action would, therefore, provide for the improvement of the overall environmental condition of the project area.

Inspections of the proposed project alignment and adjacent areas were accomplished on November 11, 1996, April 3, 1997, and July 28, 1997. The inspections were completed on foot and included all accessible portions of the alignment. Based upon these inspections, the risk of encountering an HTRW site during construction is minimal throughout most of the project. Areas identified to be of moderate to high risk include: a dump site north of the Gloria Drive Pump Station; a boat building or repair business at the southwest corner of the alignment; and an underground storage tank (UST) site at a vacant grocery store at Bayou Barataria. Areas identified to be of minimal HTRW risk, but likely requiring removal to accommodate construction included: a residential storage area at the LA Highway 45 bend; pipe penetrations in the levee near Tasha Lane; a dump site at the dead end canal; and a dump site south of the Gloria Drive Pump Station. Other areas identified were either outside of the alignment or were not a significant HTRW concern.

AIR QUALITY

EXISTING CONDITIONS: Based upon a review of ambient air quality 5-year trend analyzes (1992-1996), collected by the Louisiana Department of Environmental Quality (LDEQ-AQD), there were no violations of state air quality standards at the monitoring stations nearest the project area. The LDEQ-AQD also indicated that there are no non-attainment areas or deviations from National Ambient Air Quality Standards in the vicinity. These findings indicate that the air quality in the study area is generally good.

NO ACTION: Air quality within the project area would be expected to worsen slightly as development continues, but violations of state air quality standards are not expected to occur.

LEVEE AND FLOODWALL: There would be temporary, minor adverse impacts to air quality near construction areas. Exhausts from construction equipment and dust from moving equipment would occur during construction. No violations of state air quality standards are expected to occur because of the relatively small extent of the project. It was calculated that the massive New Lock and Connecting Channels Project would produce 50.9 tons of volatile organic compounds per year (COE 1997). The current project would produce a small fraction of that amount.

NOISE

EXISTING CONDITIONS: Ambient noise in the study area is generated by residential activities, vehicular traffic, and interspersed industrial enterprises. Boat traffic on Bayou Barataria and the Intracoastal Waterway is an additional source of noise for areas adjacent to these canals. The noise levels present in the study area probably vary between 50-80 decibels, with the lower levels occurring in the less developed northern and eastern reaches, and the higher levels occurring in the more developed southern and western reaches.

NO-ACTION: With the anticipated residential and business growth that would occur in the project area, noise levels would increase slightly.

LEVEE AND FLOODWALL: Noise levels would increase temporarily over the without-project conditions in the areas of construction. Since construction would take place during daylight hours, sleep interference would be minimal; however, the noise could be annoying to workers and inhabitants in adjacent structures. The EPA has a limit of 85 dBA for eight hours of continuous exposure to protect against permanent hearing loss. Noise above this level would not occur for periods longer than eight hours. Construction workers would have hearing protection devices.

FARMLANDS

EXISTING CONDITIONS: The farmland Protection Policy Act, recognizes and encourages the responsible use of lands which are classified as prime or unique farmland. The classification of a property is generally based upon factors that include: the soil type; existing land usage; and conditions of flooding. According to the Natural Resources Conservation Service, Soil Survey of Jefferson Parish (1983), the soil units which comprise prime farmland in the project area include: Sharkey clay; Sharkey silty clay loam; and Commerce silt loam. It is estimated that the project area contains 355 acres of prime farmland soils, based solely upon an evaluation of surveyed map units. The actual acreage of prime farmland in the project area would be less than

the specified figure, since areas having existing development and flooded conditions would be eliminated from the acreage estimate.

NO-ACTION: Land use trends in Jefferson Parish and in the project area are toward the conversion of prime farmland to urban uses. As a result, prime farmland in the project area would likely be converted to developed uses within the foreseeable future. This development would occur with or without the proposed action.

LEVEE AND FLOODWALL: Construction of the proposed levee would result in the loss of approximately 16 acres (4.5%) of prime farmland in the project area by virtue of the expanded levee footprint. Since prime farmland is presently being lost to development, the losses associated with the proposed action would temporarily accelerate the rate of loss. The total acreage of prime farmland ultimately lost to long term development would not be affected.

CUMULATIVE IMPACTS

The direct loss of 10.4 acres of fresh swamp and BLH habitat would be added to other wetland losses, both man induced and natural, in the Barataria Bay ecosystem. Between 1956 and 1989 approximately 6,000 acres of bottomland hardwoods and over 2,000 acres of marsh were lost in the plan area. Most of these acres have become developed, resulting in the loss of all wetland values and functions associated with these areas. Wetland losses resulting from development would be expected to continue at the same rate under the no action plan condition compared to the proposed project scenario because the demand for land to develop in this area is so great. The development demand has resulted and would continue to result in an influx of residents from outside the Lafitte area.

MITIGATION

The habitat value (3 Average Annual Habitat Units) of the 10.4 acres of direct forested wetland loss could be fully mitigated via one of the following options:

- ! As recommended by the U.S. Fish and Wildlife Service in its September 1997 Fish and Wildlife Coordination Act Report, acquisition and management of a yet to be determined acreage of forested wetlands located in the outfall area of the Davis Pond Freshwater Diversion Structure; or
- ! As recommended by the U.S. Fish and Wildlife Service in its September 1997 Fish and Wildlife Coordination Act

Report, acquisition or deed-restriction and management of an approximately 12.75 acre tract of early successional bottomland hardwoods immediately adjacent to, but on the unprotected side of the new levee to be constructed, through the mid to northern half of the project area; or

- ! Acquisition of an appropriate amount of forested wetland mitigation credits from an approved mitigation area in coastal Louisiana.

The COE has elected to purchase the needed acreage in the Bayou Lacache mitigation area in Terrebonne Parish. The Bayou Lacache area has been designated to provide 0.6 AAHU/acre. Because 3.0 AAHU would be lost with project implementation, five acres would need to be purchased in the mitigation area.

The areas under and around all live oak trees must be avoided during construction to avoid damage to the fragile trees. It is questionable that anything can be done to avoid damage to the live oaks on the Fleming property that grow along Bayou Barataria, unless construction in the area is avoided entirely. If the trees are removed and replaced, the replacement trees should be species that are more tolerant of the high water table (e.g cypress or overcup and nuttall oak, if oaks are selected) and be at least 15 feet tall. Live oaks should not be planted on the property as replacements. They are not likely to be vigorous and may not survive because of their sensitivity to the high water table. Twice as many trees should be planted to offset those removed or killed by project implementation because the replacement trees would be smaller initially and would always have a more vertical growth form.

COORDINATION

The New Orleans District representatives have met with Jefferson Parish representatives and interested citizens concerning the design and details of the proposed action. All persons contacted support the proposed action.

This document has been coordinated with appropriate Congressional, Federal, State, and local interests, as well as environmental groups and other interested parties. The following agencies, as well as other interested parties, are receiving copies of this Environmental Assessment:

U.S. Department of the Interior, Fish and Wildlife Service
U.S. Environmental Protection Agency, Region VI
U.S. Department of Commerce, National Marine Fisheries Service

U.S. Natural Resources Conservation Service, State
Conservationist
Advisory Council on Historic Preservation
Governor's Executive Assistant for Coastal Activities
Louisiana Department of Wildlife and Fisheries
Louisiana Department of Natural Resources, Coastal
Resources Program
Louisiana Department of Natural Resources, Coastal
Restoration Division
Louisiana Department of Environmental Quality
Louisiana State Historic Preservation Officer

Recommendations of the U.S. Fish and Wildlife Service

Recommendation 1. Concurrent with project implementation, 6.4 acres of bottomland hardwoods and 6.35 acres of swamp shall be reforested at Mitigation Site 1; or, funding would be made available to develop and dedicate 3 AAHU's on the West Bank Mitigation Area to compensate for the unavoidable, project-related loss of forested wetlands.

Response 1. We checked with the superintendent of the Jean Lafitte National Historical Park and Preserve to determine if they would accept the small triangular area outside the levee system to manage. They are not interested in it and we can find no other acceptable entity to manage such a small area. The mitigation credits for the Davis Pond mitigation area have yet to be worked out; therefore, we plan to purchase five acres in the approved Bayou Lacache mitigation area where we gain 0.6 AAHU's/acre.

Recommendation 2. The Service shall be provided an opportunity to review and submit recommendations on the draft plans and specifications for all levee work addressed in this report, and shall be consulted throughout the development of the mitigation alternative ultimately selected for implementation.

Response 2. We would coordinate future planning with the U.S. Fish and Wildlife Service.

COMPLIANCE WITH STATUTES

Environmental compliance of the proposed action with a variety of statutes is required. The status of compliance with applicable Federal and State statutes, at this stage of the review process, is displayed in Table 3. Full compliance would be achieved after Clean Water Act public notice, review and revision of the environmental assessment is complete, and a finding of no significant impact is issued, if appropriate. A state water quality certificate was issued on October 9, 1997 and

approval of the coastal zone consistency determination was given on July 30, 1998.

Table 3. ENVIRONMENTAL COMPLIANCE

Statute	Compliance
FEDERAL	
Abandoned Shipwreck Act of 1988	Partial
Archeological and Historic Preservation Act of 1974	Partial
Bald Eagle Act	Partial
Clean Air Act, As Amended	Partial
Clean Water Act of 1977, As Amended	Partial
Coastal Zone Management Act of 1972, As Amended	Complete
Coastal Barrier Resources Act (PL 97-348; 1982)	Partial
Endangered Species Act of 1973, As Amended	Partial
Estuary Protection Act	Partial
Farmland Protection Policy Act	Partial
Federal Water Project Recreation Act, As Amended	Partial
Fish and Wildlife Coordination Act, As Amended	Partial
Floodplain Management (E.O. 11988)	Partial
Flood Security Act of 1985	Partial
Land and Water Conservation Fund Act of 1965	Partial
Marine Protection, Research, and Sanctuary Act of 1972	Partial
National Environmental Policy Act of 1969, As Amended	Partial
National Historical Preserve Act of 1966, As Amended	Partial
Prime and Unique Farmlands, 1980 CEQ Memorandum	Partial
Protection and Enhancement of the Cultural Environment, 1971 (E.O. 11593)	Partial
Protection of Wetlands (Executive Order 11990)	Partial
River and Harbor and Flood Control Act of 1970	Partial
Water Resources Dev. Acts of 1976, 1986, and 1990	Partial
Wild and Scenic River Act, As Amended	Partial
STATE	
Air control Act	Partial
Archeological Treasury Act of 1974, As Revised	Partial
Louisiana State and Local Coastal Resource Management Act of 1978	Partial
Louisiana Natural and Scenic Rivers System Act	Partial
Protection of Cypress Trees	Partial
Louisiana Water Control Act	Partial

PUBLIC CONCERNS

The flooding of streets, homes, and businesses is a concern to all residents of the State of Louisiana. The residents of the Fisher School Basin in Jean Lafitte are particularly interested in eliminating the flooding that results from storm induced tides and precipitation. Loss of wetlands, forests, and fish and wildlife habitat are concerns related to any project in south Louisiana. Residents along the bayou are concerned about aesthetic qualities and replacement of structures (e.g. piers)

that they have placed along the bayou. Affected residents would be compensated for lands, structures, and relocations.

SUMMARY

The proposed action would reduce tidal and storm induced flooding within the Fisher School Basin by: elevating existing levee systems; constructing a new levee segment; and placing floodwalls at several strategic locations. The protection system would follow existing levee alignments as closely as possible to minimize adverse impacts and would be designed to protect against the existing 10-year exterior, or tidal, event. The proposed action would result in the loss of 10.4 acres of wetland habitat through expansion of the levee footprint. The affected wetlands are almost totally enclosed, under pumpage, and exhibit low functional values; however, the direct wetland losses would be mitigated by one of the methods previously described. Minor impacts to wildlife or fisheries would occur as a result of the proposed action. Slight and temporary impacts to the water quality of Bayou Barataria or canals and wetlands adjacent to the project area would result from the proposed action. This office has assessed the environmental impacts of the proposed action and has determined that the improvements of the Fisher School Basin Flood Protection System would have no adverse impact upon endangered species, cultural resources, or recreational resources.

LITERATURE CITED

U.S. Army Corps of Engineers. 1997. Mississippi River-Gulf Outlet New Lock and Connecting Channels Evaluation Report, Volume 6, Appendix D. U.S. Army Corps of Engineers. New Orleans, LA.

LIST OF PREPARERS

This environmental assessment was prepared by Mr. David Soileau, Biologist, and Mr. Brian Hava, Senior Environmental Specialist, Coastal Engineering and Environmental Consultants, Inc., in cooperation with Mr. Bob Martinson, Biologist at the U.S. Army Corps of Engineers, New Orleans District. Engineering information was provided by Mr. Rodney Greenup, Study Manager and Rich Varuso, Civil Engineer U.S. Army Corps of Engineers, New Orleans District. Ms. Joan Exnicios coordinated cultural resources investigations.

Attachment A
Wetland Valuation Assessment Results

Attachment B

State Historic Preservation Officer Coordination Letter