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## ACRONYMS AND ABBREVIATIONS

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ACHP	Advisory Council on Historic Preservation
ADEM	Alabama Department of Environmental Management
AHPP	Alternative Housing Pilot Program
ALDOT	Alabama Department of Transportation
amsl	above mean sea level
APE	Area of Potential Effect
BMP	Best Management Practice
CAA	Clean Air Act
CBOD	carbonaceous biochemical oxygen demand
CDBG	Community Development Block Grant
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibel
DNL	Day-Night Average Sound Level
EA	Environmental Assessment
EFH	Essential Fish Habitat
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
GMFMC	Gulf of Mexico Fisheries Management Council
HMGP	Hazard Mitigation Grant Program
HUD	U.S. Department of Housing and Urban Development
MGD	million gallons per day
mg/L	milligrams per liter
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO <sub>2</sub>	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System

## ACRONYMS AND ABBREVIATIONS

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NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O <sub>3</sub>	ozone
OSHA	Occupational Safety and Health Administration
Pb	lead
PL	Public Law
PM <sub>2.5</sub>	particulate matter less than 2.5 microns
PM <sub>10</sub>	particulate matter less than 10 microns
ppm	parts per million
ppt	parts per thousand
SH 188	State Highway 188
SHPO	State Historic Preservation Office
SO <sub>2</sub>	sulfur dioxide
STP	shovel test pit
SWPPP	Stormwater Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
VOC	Volatile Organic Compound
VZ	Velocity Zone
WWTP	Wastewater Treatment Plant

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## 1.0 INTRODUCTION

On August 29, 2005, Hurricane Katrina struck the Alabama Gulf Coast, causing extensive damage. A Presidential Disaster Declaration, FEMA-1605-DR-AL, was subsequently signed for Katrina.

The Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA) is mandated by the U.S. Congress to administer Federal disaster assistance pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), P.L. 93-288, as amended. The Stafford Act authorizes FEMA's Hazard Mitigation Grant Program (HMGP) to provide funding to State and Local governments to implement long-term hazard mitigation measures for the purposes of reducing the loss of life and property due to disasters.

Recognizing the extensive and complex housing challenges facing victims and communities as a result of Hurricane Katrina and acknowledging the limitations on FEMA's ordinary statutory authority to provide non-temporary housing solutions, Congress appropriated funds to the DHS to support alternative housing pilot programs (Emergency Supplemental Appropriations Act, 2006, P.L. 109-234). The Alternative Housing Pilot Program (AHPP) represents a one-time exception to FEMA's existing authority under the Stafford Act, which legally binds FEMA to a temporary housing mission reliant primarily on travel trailers and manufactured homes, by providing an opportunity to explore, implement, and evaluate innovative approaches to housing solutions, and to address ongoing housing challenges created by the 2005 hurricane season in the states of the Gulf Coast region, including the State of Alabama.

The City of Bayou La Batre (City), Alabama, has applied to FEMA for assistance under the AHPP and HMGP to assist in the redevelopment of the City's housing and the domestic and industrial wastewater infrastructure following extensive damages caused by Hurricane Katrina. The City proposes to utilize FEMA funding to supplement the City's applications for assistance under a U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant (CDBG).

In accordance with the Stafford Act and implementing regulations at 44 Code of Federal Regulations (CFR) Part 206, FEMA is required to review the environmental effects of the proposed action prior to making a funding decision. As the components funded through the CDBG are connected to the proposed actions that would be funded by FEMA, the environmental impacts of all related project components are being evaluated in this comprehensive Environmental Assessment (EA) that is being prepared by FEMA. This EA has been prepared in accordance with FEMA's National Environmental Policy Act (NEPA) regulations found in 44 CFR Part 10.

## 2.0 PURPOSE AND NEED

On August 29, 2005, Hurricane Katrina's storm surge severely damaged the City of Bayou La Batre, Alabama. When the storm had passed, nearly 1,000 residents of the City's 2,300 citizens were homeless. Approximately 65% of all occupied housing units in the City were damaged or destroyed. In addition, the existing municipal wastewater treatment plant (WWTP) suffered severe damage from the storm surge and now runs at a reduced capacity.

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There is a need for FEMA to identify, develop, and evaluate new, non-temporary options for housing disaster victims in the aftermath of the 2005 hurricane season and for the City to establish permanent housing for residents displaced by Hurricane Katrina. There is also a need for increased wastewater treatment capacity that is protected from future storms and storm surges. The increased capacity will accommodate new permanent housing and commercial uses in the City.

### 3.0 ALTERNATIVES

This section describes the four alternatives that were considered in addressing the purpose and need stated in Section 2 above.

#### 3.1 ALTERNATIVE 1: NO ACTION

Under the No Action Alternative, FEMA would not fund new permanent housing within the City and would not provide funding for the relocation and protection of the City's WWTP. Residents of the City who are currently living in temporary housing would not be placed into permanent housing units. The City may elect to continue operating the existing WWTP at a reduced capacity and without protection from future storm events, or relocate the WWTP using CDBG funds but without flood protection from future storm events.

#### 3.2 ALTERNATIVE 2: DEVELOP HOUSING PROJECTS AND RELOCATE WWTP

Under this Alternative, FEMA would fund the development of two community housing projects, Safe Harbor Estates and Safe Harbor Landing. In addition, FEMA and HUD would fund the relocation of the City's WWTP to higher ground along with new influent/effluent lines and a lift station (Figure 1 in Appendix A).

The City would use funds from FEMA's AHPP for the acquisition and development of a 13-acre parcel (Safe Harbor Landing) located adjacent to the Safe Harbor Estates site. The City would also use FEMA AHPP funds for the installation of AHPP housing units on land acquired and prepared using CDBG funds in a 39-acre site (Safe Harbor Estates) located at the intersection of Shine Road and State Highway 188 in Bayou La Batre.

These developments would be connected to the City's wastewater collection and treatment system. The City would use CDBG funds for the demolition and construction activities involved in the relocation of the WWTP. FEMA HMGP funds will be added to the project to ensure the relocated WWTP is adequately protected from future hazards. In particular, FEMA's HMGP funding will be used for the elevation of the facility to the 500-year floodplain (the area subject to inundation from a flood having a 0.2 percent chance of occurring in any given year) requirements, minor flood control measures to protect the new WWTP, and construction of a new sewer pumping station (lift station) in the location of the demolished WWTP. Additional components that would be constructed in order for the new WWTP to be a functional system include: new influent lines, a lift station that would carry wastewater from the new pumping station to the new WWTP, and a new effluent pipe that would combine the City's waste discharge with the discharge of two seafood industry facilities. The new effluent line would discharge into Portersville Bay (Bay).

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### 3.2.1 Safe Harbor Estates and Safe Harbor Landing

The City would use AHPP funds to install approximately 105 permanent housing units on a 39-acre parcel (Safe Harbor Estates) located to the west of Shine Road (Figure 2 in Appendix A). The City would also develop a 13-acre parcel (Safe Harbor Landing) that is located adjacent to the Safe Harbor Estates parcel, but on the east side of Shine Road. Safe Harbor Landing would accommodate approximately 60 mobile AHPP units. Development of these housing areas would include creation of buffers to adjoining properties and common areas within each community, divided median entrances, and sidewalks, trees, and street lighting. Both developments would connect to utility services proposed for construction on Shine Road. Shine Road, the only access to both developments, would be paved. The City would also reconfigure the intersection of Shine Road and State Highway 188, and construct turning lanes in both directions on State Highway 188 to comply with Alabama Department of Transportation regulations.

### 3.2.2 Relocate WWTP

Relocating the WWTP involves combining CDBG and HMGP funds to:

- Construct a 3-million-gallons-per-day (MGD) WWTP for treatment of domestic and industrial (seafood) wastewater from the City;
- Demolish the existing WWTP and construct a new wastewater lift station for the transportation of domestic and industrial (seafood) wastewater to the new WWTP for processing. The raw sewage pump station would be designed to handle 3 MGD of design flow and 9 MGD of peak flow;
- Install 16-inch-diameter inflow (influent) and outflow (effluent) pipelines for the new WWTP. One pipeline would receive industrial wastewater from the existing industrial sewer line and the other would move treated wastewater back to the existing discharge line; and,
- Combine the City's existing effluent wastewater streams (domestic and industrial) into one 24-inch-diameter outfall pipeline, to reduce wastewater loading to Portersville Bay from current levels (CBLB, 2007).

The existing WWTP located at 285 State Docks Road will be cleaned and demolished in place. The demolished materials will be disposed at a permitted landfill. A new lift station would be built on the existing WWTP site. The lift station would pump raw sewage through the existing collection system and on to the new WWTP for treatment. The top of the walls of the lift station wet well would be elevated at 22 feet amsl, and the walls would be designed to handle hydraulic forces exerted by a 500-year flood. The lift station would be located within the 100-year floodplain (the area subject to a one percent chance of flooding in any given year); however, all equipment would be protected by the wet well walls (CBLB, 2007).

The new WWTP will be built out of the coastal high hazard area to a site located at 14575 Railroad Street in Bayou La Batre. The site, previously used for disposal of dredged material, is located approximately 0.6 mile east of the existing WWTP. The new WWTP will be elevated approximately 22 feet amsl to meet the 500-year floodplain requirements. Protective berms will be built around the new WWTP to protect it from floodwaters (Figure 3 in Appendix A). An equalization tank will provide capacity to divert any flow above the 3 MGD design capacity, so

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as not to overwhelm the biological treatment system. Waste in the equalization tank would be returned to the biological treatment system after the average daily flow drops below the maximum design capacity (CBLB, 2007).

The influent headworks of the new WWTP would remove all debris, inorganic materials, and grease from the waste stream, to prevent interference with the subsequent biological reduction process. Debris, inorganic materials, and grease removed from the wastewater prior to influent treatment are permitted for disposal at an approved landfill (CBLB, 2007). The new WWTP would be capable of tertiary treatment of wastewater. It will use Aeration Basin and Secondary Clarification as the biological treatment to reduce organic material in collected wastewater. Ultraviolet (UV) radiation would be used to disinfect the effluent wastewater prior to disposal.

A post-aeration pond would increase the concentration of dissolved oxygen in the effluent stream, prior to discharge to the receiving waters of Portersville Bay. Wastewater would be disinfected with ozone prior to being moved into the effluent discharge line.

An onsite standby generator will be installed to provide energy for continued wastewater collection and treatment operations in the event of a power outage. During power outages, these units will prevent backups or overflows from the facility (CBLB, 2007).

Approximately 7,000 linear feet of influent lines would be installed. The effluent and outfall lines would total approximately 12,000 linear feet. Approximately 2,500 linear feet of the outfall line would be constructed within Portersville Bay. Influent and effluent lines would be constructed within existing right-of-ways.

The City would consolidate all domestic and industrial waste effluent into a single outfall in Portersville Bay. The City would move the outfall discharge location farther offshore to provide more rapid mixing with surface waters. The outfall diffuser (Figure 4 in Appendix A) proposed for the offshore discharge location consists of ten 8-inch Tideflex diffusers that significantly enlarge the dilution zone compared to the current outfall. The diffuser also mixes effluent more rapidly with the receiving water body (CBLB, 2007).

#### Construction Methods

Conventional construction equipment and methods would be employed to install the proposed influent and effluent pipelines along existing rights-of-way. For terrestrial lines, trenching would be accomplished by using mechanical equipment such as trenchers or backhoes. All excavated material would be placed adjacent to the trench until returned to the trench as backfill. Backhoes and graders would be used to backfill the trench and return the disturbed areas to pre-construction grade (CBLB, 2007).

The treated effluent (outflow) pipeline would be installed by conventional methods until reaching the northern edge of Portersville Bay, where a horizontal drilling method would be used to bore beneath the marsh to avoid disturbance of marsh soil and vegetation (CBLB, 2007). Once the pipeline reaches the borehole exit in open waters of Portersville Bay, the pipeline would be installed with a conventional pipelaying jet barge (Figure 5 in Appendix A).

To achieve the appropriate burial depth, the constructed pipeline would be post-jettted using high-pressure water jets. During operations, a jetting sled moves slowly above the pipeline and uses high-pressure water streams to cut a trench beneath it. The pipeline then settles into the created trench and displaced sediment eventually backfills the trench, covering the pipeline. Pipeline

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installation utilizing the jetting method will require temporary disturbance of sediments along the pipeline route as the trench is created. A typical trench configuration is shown in Figure 5 in Appendix A. An as-built survey would be conducted after completion of pipeline construction to record pipeline location and depth is a minimum of 4 feet below the ambient bottom elevation, per State of Alabama regulations (CBLB, 2007).

### **3.3 ALTERNATIVE 3: DEVELOP HOUSING PROJECTS, NO HMGP FOR RELOCATION OF WWTP**

Under this Alternative, FEMA would fund the development of the two community housing projects under the AHPP. AHPP funds will be used for the acquisition and development of a 13-acre parcel (Safe Harbor Landing) located adjacent to the Safe Harbor Estates site. The City would also use FEMA AHPP funds for the installation of AHPP housing units on land acquired and prepared using CDBG funds in a 39-acre site (Safe Harbor Estates) located at the intersection of Shine Road and State Highway 188 in Bayou La Batre. Section 3.2.1 describes the construction of these sites. FEMA would not use HMGP funds for the relocation of the WWTP. The City may elect to maintain the existing WWTP or relocate the WWTP without flood protection using CDBG funds.

### **3.4 ALTERNATIVE 4: RELOCATE WWTP, NO AHPP FOR DEVELOPMENT OF HOUSING PROJECTS**

Under Alternative 4, the City would use CDBG funds to relocate the WWTP. FEMA HMGP funds would be added to the project for the elevation of the WWTP to the 500-year floodplain requirements, minor flood control measures to protect the new WWTP, and construction of a new sewer pumping station (lift station) in the location of the demolished WWTP. Section 3.2.2 describes the relocation of the WWTP. FEMA would not use AHPP funds for the development of the housing projects.

### **3.5 ALTERNATIVES CONSIDERED BUT DISMISSED**

#### **3.5.1 Alternative Sites for AHPP Community Housing Projects**

The City evaluated other sites to locate other sites for AHPP development. However, no other locations were identified that would be feasible and would meet the stated purpose and need.

#### **3.5.2 Rebuild WWTP and Wastewater Infrastructure in Place**

The City considered an alternative to rebuild the WWTP in its existing location. Damage assessment reports indicate that 75 percent of the WWTP suffered damage from Hurricane Katrina. The existing WWTP is vulnerable to storm surge from tropical storms and hurricanes, and rebuilding the WWTP on the same site would not alleviate the risk from future storm damage and subsequent sewer overflows. Therefore, the alternative to rebuild the WWTP in its existing location was dismissed because it does not meet the purpose and need of this project to provide the residents and businesses of the City with adequate and protected sanitary sewer service.

## 4.0 AFFECTED ENVIRONMENT AND IMPACTS

The following table summarizes the potential impacts of the alternatives. Following the summary table, resource areas and potential impacts are discussed in greater detail.

	<b>Alternative 1: No Action</b>	<b>Alternative 2: Develop Housing Projects and Relocate WWTP</b>	<b>Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP</b>	<b>Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects</b>
<b>Geology and Soils</b>	No impacts to geology or soils.	No impacts to geology; temporary impacts to soils.	No impacts to geology; temporary impacts to soils.	No impacts to geology; temporary impacts to soils.
<b>Groundwater and Surface Water</b>	<p>No impacts to groundwater.</p> <p>If the City continues to operate the existing WWTP, adverse effects on water quality in the Bay would continue due to secondary treatment which adversely affects water quality in the Bay.</p> <p>If the City relocates the WWTP with CDBG funds, temporary impacts to water quality during construction are possible.</p>	<p>No impacts to groundwater.</p> <p>Temporary impacts to water quality during construction are possible. Positive long-term impacts on water quality would occur due to better wastewater treatment and dilution.</p>	<p>No impacts to groundwater.</p> <p>Temporary impacts to water quality during construction are possible.</p> <p>If the City continues to operate the existing WWTP, adverse effects on water quality in the Bay would continue due to secondary treatment which adversely affects water quality in the Bay.</p> <p>If the City relocates the WWTP with CDBG funds, temporary impacts to water quality during construction are possible, and positive long-term impacts would occur due to better wastewater treatment and dilution.</p>	<p>No impacts to groundwater. Temporary impacts to water quality during construction are possible. Positive long-term impacts on water quality would occur due to better wastewater treatment and dilution.</p>
<b>Floodplains</b>	<p>The existing WWTP and infrastructure would remain vulnerable to future damage from floods.</p> <p>If the City decides to relocate the WWTP using CDBG funds, the relocated facility would be vulnerable to future damage from floods.</p>	<p>No adverse impacts to floodplains from the housing projects. Positive effects on the floodplain would result from protective measures to the relocated WWTP.</p>	<p>No adverse impacts to floodplains from the housing projects. The existing WWTP and infrastructure would remain vulnerable to future damage from floods.</p> <p>If the City decides to relocate the WWTP using CDBG funds, the relocated facility would be vulnerable to future damage from floods.</p>	<p>No adverse impacts to floodplains from the housing projects. Positive effects on the floodplain would result from protective measures to the relocated WWTP.</p>

	<b>Alternative 1: No Action</b>	<b>Alternative 2: Develop Housing Projects and Relocate WWTP</b>	<b>Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP</b>	<b>Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects</b>
<b>Wetlands and Waters of the U.S.</b>	No impacts.  If the City chooses to relocate the WWTP, temporary impacts to off-site, downstream surface waters are possible during construction.	Impacts would occur to the stream located on the 39-acre Safe Harbor Estates parcel. Temporary impacts to off-site, downstream surface waters are possible during construction activities. No impacts to shoreline wetlands from installation of outfall to Bay.	Impacts would occur to the stream located on the 39-acre Safe Harbor Estates parcel. Temporary impacts to off-site, downstream surface waters are possible during construction activities.	Temporary impacts to off-site, downstream surface waters are possible during construction activities. No impacts to shoreline wetlands from installation of outfall to Bay.
<b>Transportation</b>	No impacts.	Minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed housing and WWTP sites would occur. Lane closures are anticipated during the upgrade of the sewer lines within the right-of-way, but no road closures are anticipated. ALDOT would require mitigation measures (re-alignment of Shine Road at the intersection of SH 188 to a 90-degree angle, and widening of SH 188 at that intersection). As permanent housing becomes available, current traffic levels are anticipated to increase but not exceed pre-Hurricane Katrina levels.	Minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed housing sites would occur. Lane closures are anticipated during the upgrade of the sewer lines within the right-of-way, but no road closures are anticipated. ALDOT would require mitigation measures (re-alignment of Shine Road at the intersection of SH 188 to a 90-degree angle, and widening of SH 188 at that intersection). As permanent housing becomes available, current traffic levels are anticipated to increase but not exceed pre-Hurricane Katrina levels.	Minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed WWTP site would occur.

	<b>Alternative 1: No Action</b>	<b>Alternative 2: Develop Housing Projects and Relocate WWTP</b>	<b>Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP</b>	<b>Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects</b>
<b>Public Health and Safety</b>	<p>Public health conditions in the area would continue to be adversely affected by the reduced efficiency and capacity of the existing WWTP.</p> <p>If the City chooses to relocate the WWTP with CDBG funds, public health and safety would benefit from improved wastewater services. However, with no flood protection for the relocated WWTP, the public would be adversely affected if the relocated facility is temporarily closed due to future flood damage.</p>	<p>Public health conditions would benefit from improved wastewater treatment services and resultant water quality improvements in the Bay.</p>	<p>Public health conditions in the area would continue to be adversely affected by the reduced efficiency and capacity of the existing WWTP.</p> <p>If the City chooses to relocate the WWTP with CDBG funds, public health and safety would benefit from improved wastewater services. However, with no flood protection for the relocated WWTP, the public would be adversely affected if the relocated facility is temporarily closed due to future flood damage.</p>	<p>Public health conditions would benefit from improved wastewater treatment services and resultant water quality improvements in the Bay.</p>
<b>Hazardous Materials or Wastes</b>	<p>No impacts.</p> <p>If the City chooses to construct the WWTP with CDBG funds, excavation activities could expose or otherwise affect subsurface hazardous wastes or materials; any hazardous materials discovered, generated, or used during construction would be disposed of and handled in accordance with applicable local, state, and federal regulations.</p>	<p>No impacts.</p>	<p>No impacts.</p> <p>If the City chooses to construct the WWTP with CDBG funds, excavation activities could expose or otherwise affect subsurface hazardous wastes or materials; any hazardous materials discovered, generated, or used during construction would be disposed of and handled in accordance with applicable local, state, and federal regulations.</p>	<p>No impacts.</p>
<b>Socioeconomics</b>	<p>Adverse impacts to socioeconomic conditions may occur because residents displaced by Hurricane Katrina would continue to rely on temporary housing. The seafood industry would</p>	<p>No adverse socioeconomic impacts are anticipated. Residents displaced by Hurricane Katrina would benefit from the transition from temporary housing to permanent housing. The seafood industry would benefit from the construction and relocation of</p>	<p>Residents displaced by Hurricane Katrina would benefit from the transition from temporary housing to permanent housing. The seafood industry would continue to be adversely affected by the reduced efficiency and capacity of the existing</p>	<p>Adverse impacts to socioeconomic conditions may occur because residents displaced by Hurricane Katrina would continue to rely on temporary housing. The seafood industry would benefit from the construction and relocation of the WWTP through improved water</p>

	<b>Alternative 1: No Action</b>	<b>Alternative 2: Develop Housing Projects and Relocate WWTP</b>	<b>Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP</b>	<b>Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects</b>
	<p>continue to be adversely affected by the reduced efficiency and capacity of the existing WWTP and the resultant reduced water quality in the Bay.</p> <p>If the City chooses to relocate the WWTP using CDBG funds, the seafood industry would benefit from improved wastewater treatment services and improved water quality in the Bay.</p>	<p>the WWTP through improved water quality in Portersville Bay and more efficient wastewater treatment services.</p>	<p>WWTP and the resultant reduced water quality in the Bay.</p> <p>If the City chooses to relocate the WWTP using CDBG funds, the seafood industry would benefit from improved wastewater treatment services and improved water quality in the Bay.</p>	<p>quality in Portersville Bay and more efficient wastewater treatment services.</p>
<b>Environmental Justice</b>	No disproportionate impacts to minority or low-income populations.	No disproportionate impacts to minority or low-income populations.	No disproportionate impacts to minority or low-income populations.	No disproportionate impacts to minority or low-income populations.
<b>Air Quality</b>	<p>No impacts.</p> <p>If the City chooses to relocate the WWTP using CDBG funds, temporary impacts would occur during the construction period.</p>	<p>Temporary impacts would occur during the construction period.</p>	<p>Temporary impacts would occur during the construction period.</p>	<p>Temporary impacts would occur during the construction period.</p>
<b>Noise</b>	<p>No impacts. If the City chooses to relocate the WWTP using CDBG funds, temporary impacts would occur during the construction period.</p>	<p>Temporary impacts to noise levels would occur at the proposed housing and WWTP sites during the construction period.</p>	<p>Temporary impacts to noise levels would occur at the proposed housing sites during the construction period. If the City chooses to relocate the WWTP using CDBG funds, temporary impacts would occur during the construction period of the WWTP.</p>	<p>Temporary impacts to noise levels would occur at the proposed WWTP site during the construction period.</p>
<b>Biological Resources</b>	<p>No adverse impacts to terrestrial resources or threatened and endangered species are anticipated. Adverse impacts to aquatic biological resources would</p>	<p>Approximately 52 acres of grassed habitat would be converted to residential use. No adverse impacts to threatened and endangered species are anticipated. Temporary adverse impacts would occur to the</p>	<p>Approximately 52 acres of grassed habitat would be converted to residential use. No adverse impacts to threatened and endangered species are anticipated. Adverse impacts to aquatic biological resources would</p>	<p>No adverse impacts to terrestrial resources or threatened and endangered species are anticipated. Temporary adverse impacts would occur to the ocean bottom environment during pipeline construction; no long term</p>

	<b>Alternative 1: No Action</b>	<b>Alternative 2: Develop Housing Projects and Relocate WWTP</b>	<b>Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP</b>	<b>Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects</b>
	<p>continue if City continues to operate the existing WWTP, which provides only secondary treatment and does not meet water quality standards.</p> <p>If the City chooses to relocate the WWTP using CDBG funds, positive long-term impacts to aquatic biological resources would occur due to better wastewater treatment and improved water quality in the Bay.</p>	<p>ocean bottom environment during pipeline construction; no long-term adverse impacts to Essential Fish Habitat are anticipated. Positive long-term impacts on aquatic biological resources due to better wastewater treatment and improved water quality in the Bay.</p>	<p>continue if City continues to operate the existing WWTP, which provides only secondary treatment and does not meet water quality standards.</p> <p>If the City chooses to relocate the WWTP using CDBG funds, positive long-term impacts to aquatic biological resources would occur due to better wastewater treatment and improved water quality in the Bay.</p>	<p>adverse impacts to Essential Fish Habitat are anticipated. Positive long-term impacts on aquatic biological resources due to better wastewater treatment and improved water quality in the Bay.</p>
<b>Cultural Resources</b>	No adverse impacts to archeological resources or historic buildings.	No adverse impacts to archeological resources or historic buildings.	No adverse impacts to archeological resources or historic buildings.	No adverse impacts to archeological resources or historic buildings.

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## 4.1 GEOLOGY AND SOILS

### 4.1.1 Existing Conditions

The proposed project area is located within the Coastal Lowlands subdivision of the East Gulf Coastal Plain physiographic province. The Coastal Lowlands is a generally flat to moderately undulating plain contiguous to the coasts and bays, with elevations ranging from sea level to approximately 30 feet above sea level. Elevations of the project area range from sea level to 11 feet above sea level (CBLB, 2007).

The dominant subsurface geological features nearest to the project area are the Wiggins Arch, a subsurface feature north of the Mobile River System delta, and Mobile Graben, that lay along a complex north-south trending system of faults extending from Jackson, Alabama, south nearly to Mobile Bay (CBLB, 2007).

Of the 15 soil associations identified in Mobile County, three are predominant in the Bayou La Batre/Mon Louis Island area: the Bayou-Escambia-Harleston-Osier Association; the Axis Lafitte Association; and the Johnston Association. The proposed housing sites are characterized by Notcher sandy loam 0 to 2 percent and 5 to 8 percent slopes, and by Malbis sandy loam 0 to 2 percent slopes. The proposed WWTP site is characterized Bayou-Escambia association. Portions of the influent and effluent line routes cross the Bayou-Escambia association, and other segments cross Axis mucky sandy clay loam. Because of poor drainage and wetness, Axis mucky sandy clay loam has poor potential for cultivated crops, pasture, woodland, and urban uses (CBLB, 2007).

The Farmland Protection Policy Act (FPPA) states that federal agencies must “minimize the extent to which federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses...” According to the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Mobile County Prime Farmland List, the proposed housing sites contain soils classified as prime or unique farmland (USDA/NRCS, 1990). The WWTP, lift station, and influent/effluent lines would not be located in areas that are classified as prime or unique farmland.

Sediment quality including sediment texture and heavy metals along the effluent pipeline route in Portersville Bay was sampled in January and March 2007. At the outfall location, sediments are mostly silt and clay. Total organic carbon was detected in the benthic sediments along with heavy metals in some locations along the proposed pipeline route. The detection of heavy metals including aluminum, chromium, iron, and zinc is a reflection of the amount of fine sediments (silt and clay). Nearer the borehole exit, sediments are mostly sand, with relatively small amounts of total organic carbon (CBLB, 2007).

### 4.1.2 Environmental Consequences

#### 4.1.2.1 *Alternative 1: No Action*

Under the No Action Alternative, no impacts to geology or soils would occur.

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#### 4.1.2.2 *Alternative 2: Develop Housing Projects and Relocate WWTP*

Under Alternative 2, no impacts to geology would occur; temporary impacts to soils would occur during the construction period. Appropriate best management practices (BMPs) would be used, such as installing silt fences and revegetating bare soils immediately upon completion of construction, to stabilize soils. Any areas to receive fill may be brought to design subgrade levels with imported structural fill that would be free of contaminants.

##### *A. Housing Projects*

On June 11, 2007, Galbraith & Associates, L.L.C. sent a project review letter to the USDA NRCS regarding the proposed construction of a 120 single-family modular home site. The proposed project includes Safe Harbor Estates, consisting of 60 units located on 39 acres west of Shine Road and Safe Harbor Landing consisting of 60 units on 13 acres east of Shine Road. A response letter, dated June 26, 2007 from the USDA, NRCS Tuscaloosa County Resource Soil Survey Office, stated that both Safe Harbor Estates and Safe Harbor Landing are comprised of prime farmland soils (see Appendix B). A Farmland Conversion Impact Rating form was not completed at the time of the consultation for the two housing sites.

On, September 18, 2007, a consultation letter and Farmland Conversion Impact Rating Form (see Appendix B) form was sent to the USDA NRCS Tuscaloosa County Resource Soil Survey Office requesting a comprehensive review of all project components included in this EA (Safe Harbor Estates, Safe Harbor Landing, new WWTP, lift station, influent and effluent lines, and outfall structure). In a response letter dated September 24, 2007, NRCS confirmed a total of 45 acres of prime farmland soils would be converted to non-agricultural use within the proposed project area (39 acres on the Safe Harbor Estates project site and 6 acres on the Safe Harbor Landing project site). The response letter stated that completion of the Farmland Conversion Impact Rating form satisfies FPPA guidelines (see Appendix B).

##### *B. WWTP*

On March 7, 2007, Goodwyn, Mills, and Cawood, Inc. sent a project review letter with an attached Farmland Conversion Impact Rating Form to the NRCS Tuscaloosa County Resource Soil Survey Office for the proposed wastewater treatment plant, lift station, influent and effluent lines, and outfall structure. The returned Farmland Conversion Impact Rating form, signed by Milton Tuck of NRCS, indicates that no prime farmland soils are located within the project area of the proposed wastewater treatment plant, lift station, influent and effluent lines, and outfall structure (see Appendix B).

Benthic sediments would be temporarily disturbed during installation of the pipeline in Portersville Bay. Over time, wind- and wave-generated turbulence would cause displaced sediments to fill in the pipeline trench and level the surrounding substratum. The rate of reestablishment of natural benthic conditions along the pipeline route would depend especially on the extent of storm-induced sediment transport, which can be substantial in the relatively shallow depths of the project area. Currents and waves associated with tidal activity and annual storms have been found to slowly refill depressions.

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#### *4.1.2.3 Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP*

Under Alternative 3, no impacts to geology would occur; temporary impacts to soils would occur during the construction period. Appropriate best management practices (BMPs) would be used, such as installing silt fences and revegetating bare soils immediately upon completion of construction, to stabilize soils. Any areas to receive fill may be brought to design subgrade levels with imported structural fill that would be free of contaminants.

In a response letter dated September 24, 2007, the NRCS stated that a total of 45 acres of prime farmland soils would be converted to non-agricultural use within the proposed project area (39 acres on the Safe Harbor Estates project site and 6 acres on the Safe Harbor Landing project site). The NRCS response letter also stated that completion of the Farmland Conversion Impact Rating form satisfies FPPA guidelines (see Appendix B).

#### *4.1.2.4 Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects*

Under Alternative 4, no impacts to geology would occur; temporary impacts to soils would occur during the construction period. Appropriate best management practices (BMPs) would be used, such as installing silt fences and revegetating bare soils immediately upon completion of construction, to stabilize soils. Any areas to receive fill may be brought to design subgrade levels with imported structural fill that would be free of contaminants.

The NRCS completed and signed a Farmland Conversion Impact Rating Form that stated no prime farmland soils are located within the project area of the proposed wastewater treatment plant, lift station, influent and effluent lines, and outfall structure (see Appendix B). Benthic sediments would be temporarily disturbed during installation of the pipeline in Portersville Bay.

## 4.2 GROUNDWATER AND SURFACE WATER

### 4.2.1 Existing Conditions

The dominant groundwater feature in the area of the proposed action is the Miocene-Pliocene aquifer, which underlies all of Mobile County. The surface level of the Miocene-Pliocene aquifer ranges from 50 to 100 feet below ground and extends to depths ranging from 1,000 to 2,000 feet. Within Mobile County, there are no sole source aquifers designated pursuant to Section 1424 (3) of the Safe Drinking Water Act (PL93-523, amended by P295-190) (CBLB, 2007).

The Clean Water Act (CWA), as amended in 1977, established the basic framework for regulating discharges of pollutants into the waters of the United States. Section 303(d) of the CWA establishes that states are to list (the 303(d) list) waters that are not in attainment of applicable water quality standards, or considered impaired for water quality.

Surface waters in the project vicinity include the brackish waters of West Fowl River, the Little River, Grand Bay Swamp, Bayou La Batre, and the waters of Portersville Bay. Surface waters flow into Portersville Bay, which is part of Mississippi Sound. An unnamed stream and man-made pond are located on the 39-acre parcel west of Shine Road.

Depending on water depth, salinities in the project area range from less than 10 parts per thousand (ppt) early in the year to more than 32 ppt during late summer and fall. Areas of

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greatest variation include shallow areas adjacent to the coast, particularly those influenced by river discharge. Water currents in the project area are influenced by freshwater outflow from estuaries, wind speed and direction, tidal fluctuation, bathymetry, and shoreline configuration (CBLB, 2007).

Mississippi Sound is considered to have good water quality and is classified as being suitable for shellfish harvesting, swimming, fish, and wildlife (CBLB, 2007). However, ADEM identified Portersville Bay as an impaired water body on the 2006 303(d) list due to pathogens (ADEM, 2006). The source of the pathogens is identified as the Bayou La Batre Utilities sewage outfall; the area of impairment is 18.81 square miles (ADEM, 2006).

The existing WWTP has a National Pollutant Discharge Elimination System (NPDES) discharge permit from ADEM (Permit No. AL0022636). The facility is under a noncompliance enforcement action for violations to the NPDES permit. A consent decree was issued in April 2004 allowing a 5-year timeline to bring the WWTP back into compliance with the NPDES permit requirements. ADEM proposed effluent limits for the Bay including: 5 parts per million (ppm) carbonaceous biochemical oxygen demand (CBOD); 2 ppm ammonia nitrogen; 25 milligram per liter (mg/L) total suspended solids; and 1 mg/L total phosphorus.

## 4.2.2 Environmental Consequences

### 4.2.2.1 *Alternative 1: No Action*

Under the No Action Alternative, there would be no impacts to groundwater. The City may continue to operate the existing WWTP with only secondary treatment capability and the existing WWTP may continue to be in noncompliance with the NPDES permit. As a result, the facility's effluents would continue to adversely affect water quality in the Bay.

If the City elects to relocate the facility with CDBG funds, then there may be temporary impacts to off-site, downstream surface water from construction.

### 4.2.2.2 *Alternative 2: Develop Housing Projects and Relocate WWTP*

Under Alternative 2, there would be no impacts to groundwater from either the development of the housing projects or the relocation of the WWTP.

#### A. *Housing Projects*

Under Alternative 2, temporary impacts to surface waters could occur during the construction period due to erosion and sedimentation. The City would obtain an NPDES permit for construction activities which would include preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would include a description of erosion and sediment control and spill prevention BMPs that would be implemented to reduce impacts to surface water.

#### B. *WWTP*

Water quality within the Bay would be temporarily affected by increased turbidity during installation of the outfall pipeline. The process of jetting in shallow waters causes suspension of sediments, which increases suspended solids and turbidity. This turbidity may undergo

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dispersion in a plume that drifts with water currents, until suspended sediments from dredging settle to the bottom. Turbidity plumes associated with jetting often are short-lived and affect relatively small areas. Jetting operations would adhere to ADEM water quality standards. The jetting method of pipeline construction generates less suspended solids and turbidity than bucket dredging, and is preferred by the United States Army Corps of Engineers (USACE) for pipeline installation in sensitive coastal areas.

During operation of the new WWTP, discharged effluent would meet or exceed State ADEM water quality criteria. It is anticipated that, along with the tertiary treatment provided by the new WWTP, abandoning the existing outfalls and consolidating the industrial and domestic waste into one outfall would reduce pollutant loadings into Portersville Bay. Placing a new outfall diffuser farther offshore would improve water quality by mixing the discharge water in deeper waters.

#### *4.2.2.3 Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP*

Under Alternative 3, there would be no impacts to groundwater. Temporary impacts to surface waters could occur during the construction period due to erosion and sedimentation. The City would obtain an NPDES permit for construction activities which would include preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would include a description of erosion and sediment control and spill prevention BMPs that would be implemented to reduce impacts to surface water.

The City may continue to operate the existing WWTP with only secondary treatment capability and the existing WWTP may continue to be in non-compliance with the NPDES permit. As a result, the facility's effluents would continue to adversely affect water quality and biological resources in the Bay.

If the City elects to relocate the facility with CDBG funds, then there would be temporary impacts associated with increases in turbidity in the Bay due to construction of the outfall. Discharged effluent from the new WWTP would meet or exceed ADEM's proposed effluent limits for the Bay water quality criteria. It is anticipated that, along with the tertiary treatment provided by the new WWTP, abandoning the existing outfalls and consolidating the industrial and domestic waste into one outfall would reduce pollutant loadings into Portersville Bay. Placing a new outfall diffuser farther offshore would improve water quality by mixing the discharge water in deeper waters.

#### *4.2.2.4 Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects*

Under Alternative 4, there would be no impacts to groundwater. Temporary impacts to surface waters could occur during the construction period due to erosion and sedimentation. The City would obtain an NPDES permit for construction activities which would include preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would include a description of erosion and sediment control and spill prevention BMPs that would be implemented to reduce impacts to surface water.

Water quality within the Bay would be temporarily affected by increased turbidity during installation of the outfall pipeline.

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During operation of the new WWTP, discharged effluent would meet or exceed State ADEM water quality criteria. It is anticipated that, along with the tertiary treatment provided by the new WWTP, abandoning the existing outfalls and consolidating the industrial and domestic waste into one outfall would reduce pollutant loadings into Portersville Bay. Placing a new outfall diffuser farther offshore would improve water quality by mixing the discharge water in deeper waters.

## 4.3 FLOODPLAINS

### 4.3.1 Existing Conditions

Executive Order (EO) 11988 (Floodplain Management) requires federal agencies to avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. FEMA uses Flood Insurance Rate Maps (FIRMs) to identify the regulatory 100-year floodplain for the National Flood Insurance Program (NFIP). Consistent with EO 11988, the project area FIRMs (Community Panel Numbers 01097C 0759 J, 01097C 0767 J, and 01097C 0769 J), were examined during the preparation of this EA (FEMA, 1998). The entire City of Bayou La Batre is located within the 100-year floodplain.

### 4.3.2 Environmental Consequences

#### 4.3.2.1 *Alternative 1: No Action*

Under the No Action Alternative, the City's existing WWTP would continue to operate at a reduced capacity and would not be protected from future storm events because it is located in the coastal high hazard area of the 100-year floodplain and does not have flood protection measures that would protect it from storm surges. If the City decides to relocate the WWTP using CDBG funds, the relocated facility would be vulnerable to future damage from floods.

#### 4.3.2.2 *Alternative 2: Develop Housing Projects and Relocate WWTP*

##### A. *Housing Projects*

As indicated on the FIRM, the Safe Harbor Estates and Safe Harbor Landing proposed project sites are located in FEMA floodplain designated zone X, outside of the 100-year floodplain. Therefore, no impacts to the floodplain are anticipated from development of the two housing sites.

##### B. *WWTP*

The new WWTP is located within FEMA floodplain designated zone AE, within the 100-year floodplain. The lift station would be built in the location of the existing WWTP, which is located in the coastal high hazard area (FEMA floodplain designated zone VE) within the 100-year floodplain. In addition, the new influent/effluent lines would also be constructed within FEMA floodplain designated zones VE and AE (FEMA, 1998). Because the entire City is within the 100-year floodplain, there are no practicable alternatives to construction within the floodplain.

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The Eight-Step Planning Process for Floodplains has been completed to identify, minimize, and mitigate floodplain impacts (see Appendix C). A public notice for an action in the floodplain was published on August 10, 2006 (CBLB, 2006). Mitigation measures include elevation of the new WWTP to the 500-year floodplain at approximately 22 feet amsl, and constructing protective berms around the new WWTP to protect it from floodwaters. The new lift station would also incorporate flood mitigation measures and flood proofing. The top of the walls of the lift station wet well would be at 22 feet amsl, and the walls would be designed to handle hydraulic forces exerted by a 500-year flood. The lift station would remain in the 100-year floodplain; however, all equipment would be protected by the wet well walls (CBLB, 2007).

#### **4.3.2.3 *Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP***

Because the Safe Harbor Estates and Safe Harbor Landing proposed project sites are located outside of the 100-year floodplain, there would be no impacts to the floodplain from development of the two housing sites.

If the City elects to continue operating the existing WWTP, then this facility, which is located within the 100-year floodplain, would be subject to recurrent damages from storm surges. If the City elects to relocate the WWTP with CDBG funds, then the relocated facility will be subject to future damage from floods.

#### **4.3.2.4 *Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects***

The proposed WWTP, lift station, and new influent/effluent lines would be constructed within the 100-year floodplain (FEMA, 1998). Because the entire City is within the 100-year floodplain, there are no practicable alternatives to construction within the floodplain.

The Eight-Step Planning Process for Floodplains has been completed to identify, minimize, and mitigate floodplain impacts (see Appendix C). A public notice for an action in the floodplain was published on August 10, 2006 (CBLB, 2006). Flood mitigation measures would occur to the lift station and the WWTP including elevating the new WWTP to the 500-year floodplain, constructing protective berms around the new WWTP, and constructing walls around the lift station that would be designed to handle hydraulic forces exerted by a 500-year flood. The lift station would remain in the 100-year floodplain; however, all equipment would be protected by the wet well walls (CBLB, 2007).

## **4.4 WATERS OF THE U.S. INCLUDING WETLANDS**

### **4.4.1 Existing Conditions**

The USACE regulates the discharge of dredged or filled material into waters of the U.S., including wetlands, pursuant to Section 404 of the Clean Water Act (CWA). Additionally, EO 11990 (Protection of Wetlands) requires federal agencies to avoid, to the extent possible, adverse impact of wetlands.

The Coastal Zone Management Act (CZMA) enables coastal states, including Alabama, to designate state coastal zone boundaries and develop coastal management programs to improve

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protection of sensitive shoreline resources and guide sustainable use of coastal areas. The ADEM Coastal Area Management Program authorizes activities within Alabama's coastal zone.

A review of the National Wetlands Inventory for this project was conducted; no digital mapping is available for the project area (USFWS, 2007).

On August 22 and 23, 2007, a wetland delineation was conducted on the 39-acre Safe Harbor Estates parcel and the 13-acre Safe Harbor Landing parcel. The methods and procedures used for this delineation are in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual*. The proposed 13-acre housing site for Safe Harbor Landing does not contain wetlands or waters of the U.S. The proposed 39-acre housing site for Safe Harbor Estates contains a non-jurisdictional man-made pond and a stream that are considered waters of the U.S. and would be regulated by the USACE. The stream connects to an off-site wetland complex that is part of Grand Bay Swamp. Grand Bay Swamp connects to both Little River and Bayou La Batre, which both drain into Portersville Bay. The project site for the proposed WWTP and the influent/effluent lines and outfall do not contain jurisdictional wetlands, except for shoreline wetlands that occur in the area of the outfall to Portersville Bay (CBLB, 2007). These shoreline wetlands consist of saltwater marsh dominated by rushes (*Juncus* sp.) and black needlerush (*Eleuterius* sp.); other marsh plants include smooth cordgrass (*Spartina alterniflora*), saltmeadow cordgrass (*Spartina patens*), and saltgrass (*Distichlis* sp.) The WWTP site contains a non-jurisdictional man-made pond formerly used for disposal of dredged material.

#### 4.4.2 Environmental Consequences

For all alternatives, the Eight-Step Planning Process for Wetlands Management has been completed to identify, minimize, and mitigate wetland impacts (see Appendix C).

##### 4.4.2.1 *Alternative 1: No Action*

Under the No Action Alternative, no impacts to waters of the U.S. including wetlands would occur. If the City elects to relocate the WWTP, temporary impacts to off-site, downstream surface waters are possible during construction activities and would be mitigated through the use of BMPs.

##### 4.4.2.2 *Alternative 2: Develop Housing Projects and Relocate WWTP*

###### A. *Housing Projects*

Under Alternative 2, impacts would occur to the stream located on the 39-acre Safe Harbor Estates parcel. It is anticipated that the City would be required to obtain a USACE Nationwide Permit for impacts to this stream. Impacts to the stream would be minimized during final design and mitigation would be conducted in accordance with the permit conditions. Temporary impacts to off-site, downstream surface waters are possible during construction activities and would be mitigated through the use of BMPs.

In a letter dated June 28, 2007, ADEM stated that the proposed housing sites are located outside the coastal area of Alabama and are therefore not subject to further coastal zone management

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coordination or permitting requirements of the Alabama Coastal Area Management Program (see Appendix B).

#### **B. WWTP**

Temporary impacts to off-site, downstream surface waters are possible during construction activities and would be mitigated through the use of BMPs. No impacts to the shoreline saltwater marsh wetlands in the area of the outfall to Portersville Bay are anticipated because directional drilling would be used to install the effluent line beneath the wetland areas.

In letter dated September 17, 2007 to the ADEM Coastal Program, FEMA requested a review, of all project components included in this EA, including the WWTP, influent and effluent lines, and lift station. To date, no response has been received.

#### **4.4.2.3 Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP**

Under Alternative 3, impacts would occur to the stream located on the 39-acre Safe Harbor Estates parcel. It is anticipated that the City would be required to obtain a USACE Nationwide Permit for impacts to this stream. Impacts to the stream would be minimized during final design and mitigation would be conducted in accordance with the permit conditions. Temporary impacts to off-site, downstream surface waters are possible during construction activities and would be mitigated through the use of BMPs.

In a letter dated June 28, 2007, ADEM stated that the proposed housing sites are located outside the coastal area of Alabama and are therefore not subject to further coastal zone management coordination or permitting requirements of the Alabama Coastal Area Management Program (see Appendix B).

#### **4.4.2.4 Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects**

Temporary impacts to off-site, downstream surface waters are possible during construction activities and would be mitigated through the use of BMPs. No impacts to the shoreline saltwater marsh wetlands in the area of the outfall to Portersville Bay are anticipated. In letter dated September 17, 2007 to the ADEM Coastal Program, FEMA requested a review, of all project components included in this EA, including the WWTP, influent and effluent lines, and lift station. To date, no response has been received.

### **4.5 TRANSPORTATION**

#### **4.5.1 Existing Conditions**

The proposed housing sites are located east and west of Shine Road. Shine Road intersects with State Highway 188 (SH 188) north of the proposed housing sites. The areas around the proposed housing sites include homes, farmland, and forested areas. SH 188 is the main north-south thoroughfare through Bayou La Batre; SH 188 is a two-lane roadway that runs northwest and southeast from U.S. Highway 90 to Mobile Bay. At the intersection of SH 188 and Railroad Street, U.S. Highway 90 veers left on South Coden Avenue, and then runs parallel to Portersville Bay. Continuing south on Railroad Street, there is a 90-degree bend east after Luckie Street, then

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Railroad Street runs parallel to the southern property limits of the proposed WWTP location. The commercial properties near the proposed project site for the WWTP have individual parking lots with access from SH 188.

## 4.5.2 Environmental Consequences

### 4.5.2.1 *Alternative 1: No Action*

Under the No Action Alternative, there would be no impacts to transportation.

### 4.5.2.2 *Alternative 2: Develop Housing Projects and Relocate WWTP*

#### A. *Housing Projects*

No significant adverse impacts to transportation or site access are anticipated. There would be a minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed housing sites that could potentially result in a slower traffic flow for the duration of the construction phase.

As permanent housing becomes available, current traffic levels are anticipated to increase. The traffic volumes would be redistributed throughout Bayou La Batre due to the relocation of infrastructure and permanent housing to the northern part of the City; however, traffic volumes are not anticipated to exceed pre-Hurricane Katrina levels. In correspondence dated, June 14, 2007, the Alabama Department of Transportation (ALDOT) stated that the following transportation projects would be required (see Figure 4):

- 1) Re-alignment of Shine Road at the intersection of 188 to a 90-degree angle, and
- 2) Widening of Route 188 at the intersection with Shine Road for the addition of a left turn lane (heading westbound) and a right turn lane (heading eastbound).

The City would obtain a permit from ALDOT prior to the start of work within the right-of-way of SH 188. Lane closures are anticipated during the upgrade of the sewer lines within the right-of-way, but no road closures are anticipated. To mitigate potential delays, construction vehicles and equipment would be stored on site during project construction and appropriate signage would be posted on affected roadways.

#### B. *WWTP*

Under Alternative 2, no significant adverse impacts to transportation or site access are anticipated. There would be a minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed WWTP site that could potentially result in a slower traffic flow for the duration of the construction phase.

### 4.5.2.3 *Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP*

No significant adverse impacts to transportation or site access are anticipated. There would be a minor temporary increase in the volume of construction traffic on roads in the immediate vicinity

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of the proposed housing sites that could potentially result in a slower traffic flow for the duration of the construction phase.

As permanent housing becomes available, current traffic levels are anticipated to increase. The traffic volumes would be redistributed throughout Bayou La Batre due to the relocation of infrastructure and permanent housing to the northern part of the City; however, traffic volumes are not anticipated to exceed pre-Hurricane Katrina levels. In correspondence dated, June 14, 2007, the Alabama Department of Transportation (ALDOT) stated that the following transportation projects would be required (see Figure 4):

- 1) Re-alignment of Shine Road at the intersection of 188 to a 90-degree angle, and
- 2) Widening of Route 188 at the intersection with Shine Road for the addition of a left turn lane (heading westbound) and a right turn lane (heading eastbound).

The City would obtain a permit from ALDOT prior to the start of work within the right-of-way of SH 188. Lane closures are anticipated during the upgrade of the sewer lines within the right-of-way, but no road closures are anticipated. To mitigate potential delays, construction vehicles and equipment would be stored on site during project construction and appropriate signage would be posted on affected roadways.

#### **4.5.2.4 *Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects***

Under Alternative 4, no significant adverse impacts to transportation or site access are anticipated. There would be a minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed WWTP sites that could potentially result in a slower traffic flow for the duration of the construction phase.

## **4.6 PUBLIC HEALTH AND SAFETY**

### **4.6.1 Existing Conditions**

Safety and security issues considered in this EA include the health and safety of the area residents and the public at-large, and the protection of personnel involved in activities related to demolition and construction activities. Water quality in the Bay is classified as impaired to beneficial uses including swimming (ADEM, 2006)

### **4.6.2 Environmental Consequences**

#### **4.6.2.1 *Alternative 1: No Action***

Under the No Action Alternative, if the City continues operating the existing WWTP; the public would continue to be adversely affected by the reduced efficiency and capacity of the WWTP. If the City chooses to relocate the WWTP with CDBG funds, public health and safety would benefit from improved wastewater services. However, with no flood protection for the relocated WWTP, the public would be adversely affected if the relocated facility is temporarily closed due to future flood damage.

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#### **4.6.2.2 *Alternative 2: Develop Housing Projects and Relocate WWTP***

Under Alternative 2, construction activities could present safety risks to those performing the activities. To minimize risks to safety and human health, all construction activities would be performed using qualified personnel trained in the proper use of the appropriate equipment, including all appropriate safety precautions. Additionally, all activities would be conducted in a safe manner in accordance with the standards specified in Occupational Safety and Health Administration (OSHA) regulations.

The public would benefit from improved wastewater treatment services and the water quality improvements in the Bay as a result of the proposed WWTP that would include tertiary treatment of wastewater in order to discharge effluent that meets or exceeds ADEM water quality standards.

#### **4.6.2.3 *Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP***

Under Alternative 3, construction activities could present safety risks to those performing the activities. To minimize risks to safety and human health, all construction activities would be performed using qualified personnel and would be conducted in a safe manner in accordance with the standards specified in OSHA regulations.

If the City continues operating the existing WWTP; the public would continue to be adversely affected by the reduced efficiency and capacity of the WWTP. If the City chooses to relocate the WWTP with CDBG funds, public health and safety would benefit from improved wastewater services. However, with no flood protection for the relocated WWTP, the public would be adversely affected if the relocated facility is temporarily closed due to future flood damage.

#### **4.6.2.4 *Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects***

Under Alternative 4, construction activities could present safety risks to those performing the activities. To minimize risks to safety and human health, all construction activities would be performed using qualified personnel and would be conducted in a safe manner in accordance with the standards specified in OSHA regulations.

The public would benefit from the water quality improvements in the Bay as a result of the proposed WWTP that would include tertiary treatment of wastewater in order to discharge effluent that meets or exceeds ADEM water quality standards.

### **4.7 HAZARDOUS MATERIALS AND WASTES**

#### **4.7.1 Existing Conditions**

The results of Environmental Data Resources report reviews were negative for hazardous wastes and/or hazardous materials at the proposed action areas (EDR, 2007; EDR, 2007a; EDR, 2007b).

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## 4.7.2 Environmental Consequences

### 4.7.2.1 *Alternative 1: No Action*

Under the No Action Alternative, no impacts from hazardous materials or wastes are anticipated because no construction would occur. If the City chooses to construct the WWTP with CDBG funds, excavation activities could expose or otherwise affect subsurface hazardous wastes or materials; any hazardous materials discovered, generated, or used during construction would be disposed of and handled in accordance with applicable local, state, and federal regulations.

### 4.7.2.2 *Alternative 2: Develop Housing Projects and Relocate WWTP*

Under Alternative 2, no impacts from hazardous materials or wastes are anticipated.

### 4.7.2.3 *Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP*

Under Alternative 3, no impacts from hazardous materials or wastes are anticipated. If the City chooses to construct the WWTP with CDBG funds, excavation activities could expose or otherwise affect subsurface hazardous wastes or materials; any hazardous materials discovered, generated, or used during construction would be disposed of and handled in accordance with applicable local, state, and federal regulations.

### 4.7.2.4 *Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects*

Under Alternative 4, no impacts from hazardous materials or wastes are anticipated.

## 4.8 SOCIOECONOMICS

### 4.8.1 Existing Conditions

The commercial seafood industry is the primary source of jobs and income in Bayou La Batre. Prior to Hurricane Katrina, about 85 percent of the City's gross income came from the seafood industry (Bayou La Batre Chamber of Commerce, 2007).

Approximately 80 percent of the shrimp, crabs, and oysters processed in Alabama are brought in from other states or nations. Bayou La Batre seafood processors add a substantial amount to the value of the products they process by cleaning, heading, picking, shucking, grading, breeding, packaging, frozen storage, and transportation. The total annual income from the commercial seafood industry is estimated to be in excess of \$400 million (Bayou La Batre Chamber of Commerce, 2007).

Seafood landings and seafood from out-of-state support over 50 Bayou La Batre processing plants that provide employment for approximately 1500 year-round personnel and approximately 800 additional seasonal workers. Not all of the seafood landed or trucked into Alabama is processed; some is packed, repacked, or wholesaled. Approximately 15 packing houses and wholesale seafood dealers employ an additional 400 seasonal and year-round workers (Bayou La Batre Chamber of Commerce, 2007).

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Over 400 shrimp boats work out of and deliver their catches to Bayou la Batre. Several hundred smaller vessels operate in Mobile Bay harvesting shrimp, oysters, crabs, and mullet. At least 1,200 Bayou La Batre fishermen are employed on these two groups of vessels (Bayou La Batre Chamber of Commerce, 2007).

ADEM identified Portersville Bay as impaired for water quality due to pathogens discharged by the existing WWTP sewage outfall (ADEM, 2006). The area surrounding the outfall is permanently closed to oyster harvesting (Mobile Bay National Estuary Program, 2004).

#### ***4.8.1.1 Alternative 1: No Action***

Under the No Action alternative, adverse impacts may occur to socioeconomic conditions because residents of the City displaced by Hurricane Katrina would continue to rely on temporary housing. The seafood industry would be adversely affected by the reduced efficiency and capacity of the existing WWTP and resultant reduced water quality in the Bay. The seafood processing plants that rely on the existing WWTP to treat their wastewater would continue to operate at a reduced capacity.

If the City chooses to relocate the WWTP using CDBG funds, the seafood industry would benefit from improved wastewater treatment services and improved water quality in the Bay.

#### ***4.8.1.2 Alternative 2: Develop Housing Projects and Relocate WWTP***

##### ***A. Housing Projects***

Under Alternative 2, no adverse socioeconomic impacts are anticipated. Residents of the City displaced by Hurricane Katrina would benefit from the FEMA AHPP through the transition from temporary housing to permanent housing.

##### ***B. WWTP***

The seafood industry would benefit from the water quality improvements in the Bay as a result of the proposed WWTP that would combine commercial and domestic wastewater streams and include tertiary treatment in order to discharge effluent that meets or exceeds ADEM water quality standards. The seafood processing plants that rely on the existing WWTP to treat their wastewater would be able to increase their operating capacity.

#### ***4.8.1.3 Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP***

Under Alternative 3, residents of the City displaced by Hurricane Katrina would benefit from the FEMA AHPP through the transition from temporary housing to permanent housing. The seafood industry would be adversely affected by the reduced efficiency and capacity of the existing WWTP and resultant reduced water quality in the Bay. The seafood processing plants that rely on the existing WWTP to treat their wastewater would continue to operate at a reduced capacity.

If the City chooses to relocate the WWTP using CDBG funds, the seafood industry would benefit from improved wastewater treatment services and improved water quality in the Bay.

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#### **4.8.1.4 *Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects***

Under Alternative 4, adverse impacts may occur to socioeconomic conditions because residents of the City displaced by Hurricane Katrina would continue to rely on temporary housing.

The seafood industry would benefit from the water quality improvements in the Bay as a result of the proposed WWTP that would combine commercial and domestic wastewater streams and include tertiary treatment in order to discharge effluent that meets or exceeds ADEM water quality standards. The seafood processing plants that rely on the existing WWTP to treat their wastewater would be able to increase their operating capacity.

### **4.9 ENVIRONMENTAL JUSTICE**

#### **4.9.1 Existing Conditions**

EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Socioeconomic and demographic data for the project area were analyzed to determine if a disproportionate number of minority or low-income persons have the potential to be adversely affected by the proposed project.

According to the U.S. Census Bureau, in 2000 the City of Bayou La Batre's total population was 2,313 people consisting of 52 percent white, 33 percent Asian, and 10 percent Black or African American. The City's median household income in 2000 was \$27,580 with 28 percent of individuals living below the poverty level. In 2000, the State of Alabama had a total population of about 4.5 million people, consisting of 71 percent white, 26 percent Black or African American, and 3 percent other races. The median household income for the state was \$34,135 with 16 percent of individuals living below the poverty level (USCB, 2000).

#### **4.9.2 Environmental Consequences**

##### **4.9.2.1 *Alternative 1: No Action***

Under the No Action Alternative, there would be no disproportionately high and adverse effects on minority or low-income populations. All populations would continue to be adversely affected by the lack of permanent housing.

If the City chooses to continue the operation of the existing WWTP, then all populations in the City would continue to be adversely affected by the reduced efficiency and capacity of the WWTP. If the City chooses to relocate the WWTP with no flood protection, then all populations in the City would be adversely affected by future flood damage to the relocated facility.

##### **4.9.2.2 *Alternative 2: Develop Housing Projects and Relocate WWTP***

Under Alternative 2, there would be no disproportionately high and adverse effects on minority or low-income populations. Implementation of this alternative would benefit all populations in

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Bayou La Batre by providing permanent housing and improved wastewater services for residences and businesses.

#### **4.9.2.3 *Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP***

Under Alternative 3, there would be no disproportionately high and adverse effects on minority or low-income populations. Implementation of this alternative would benefit all populations in Bayou La Batre by providing permanent housing for residents that were displaced by Hurricane Katrina.

If the City chooses to continue operation of the existing WWTP, then all populations in the City would continue to be adversely affected by the reduced efficiency and capacity of the WWTP. If the City chooses to relocate the WWTP with no flood protection, then all populations in the City would be adversely affected by future flood damage to the relocated facility.

#### **4.9.2.4 *Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects***

Under Alternative 4, there would be no disproportionately high and adverse effects on minority or low-income populations. Implementation of this alternative would benefit all populations in Bayou La Batre by providing improved wastewater services for residences and businesses. All populations would continue to be adversely affected by the lack of permanent housing.

### **4.10 AIR QUALITY**

#### **4.10.1 Existing Conditions**

The Clean Air Act (CAA) requires that states adopt ambient air quality standards. The standards have been established to protect the public from potentially harmful amounts of pollutants. Under the CAA, the U.S. Environmental Protection Agency (EPA) establishes primary and secondary air quality standards. Primary air quality standards protect the public health, including the health of “sensitive populations, such as people with asthma, children, and older adults.” Secondary air quality standards protect public welfare by promoting ecosystem health, and preventing decreased visibility and damage to crops and buildings. EPA has set National Ambient Air Quality Standards (NAAQS) for the following six criteria pollutants: ozone (O<sub>3</sub>), particulate matter (PM<sub>2.5</sub>, PM<sub>10</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), and lead (Pb). According to the EPA, the City of Bayou La Batre is classified as in attainment, meaning that criteria air pollutants do not exceed the NAAQS (EPA, 2007).

#### **4.10.2 Environmental Consequences**

##### **4.10.2.1 *Alternative 1: No Action***

Under the No Action Alternative, there would be no short- or long-term impacts to air quality because no construction would occur. If the City chooses to relocate the WWTP using CDBG funds, then temporary impacts would occur during the construction period. Generators would be installed at the relocated WWTP; however, since they would run infrequently (only during power outages), impacts to air quality are anticipated to be minimal.

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#### ***4.10.2.2 Alternative 2: Develop Housing Projects and Relocate WWTP***

Under Alternative 2, temporary impacts to air quality would occur during the construction period. To reduce temporary impacts to air quality, the construction contractors would be required to water down construction areas when necessary. Emissions from fuel-burning internal combustion engines (e.g., heavy equipment and earthmoving machinery) could temporarily increase the levels of some of the criteria pollutants, including CO, NO<sub>2</sub>, O<sub>3</sub>, PM<sub>2.5</sub> and PM<sub>10</sub>, and non-criteria pollutants such as volatile organic compounds. To reduce the emission of criteria pollutants, fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained. Generators would be installed at the WWTP; however, since they would run infrequently (only during power outages) impacts to air quality are anticipated to be minimal.

#### ***4.10.2.3 Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP***

Under Alternative 3, temporary impacts to air quality would occur during the construction period. To reduce temporary impacts to air quality, the construction contractors would be required to water down construction areas when necessary. Emissions from fuel-burning internal combustion engines (e.g., heavy equipment and earthmoving machinery) could temporarily increase the levels of some of the criteria pollutants, including CO, NO<sub>2</sub>, O<sub>3</sub>, PM<sub>2.5</sub> and PM<sub>10</sub>, and non-criteria pollutants such as volatile organic compounds. To reduce the emission of criteria pollutants, fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained.

#### ***4.10.2.4 Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects***

Under Alternative 4, temporary impacts to air quality would occur during the construction period. To reduce temporary impacts to air quality, the construction contractors would be required to water down construction areas when necessary. Emissions from fuel-burning internal combustion engines (e.g., heavy equipment and earthmoving machinery) could temporarily increase the levels of some of the criteria pollutants; to reduce the emission of criteria pollutants, fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained. Generators would be installed at the WWTP; however, since they would run infrequently (only during power outages) impacts to air quality are anticipated to be minimal.

### **4.11 NOISE**

#### **4.11.1 Existing Conditions**

Noise is generally defined as unwanted sound. Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. EPA guidelines, and those of many other federal agencies, state that outdoor sound levels in excess of 55 dB DNL are “normally unacceptable” for noise-sensitive land uses such as residences, schools, or hospitals.

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## 4.11.2 Environmental Consequences

### 4.11.2.1 *Alternative 1: No Action*

Under the No Action Alternative, no impacts to noise would occur if the City chooses to continue operation of existing WWTP. If the City chooses to relocate the WWTP using CDBG funds, then there would be minor temporary increases in noise levels during the construction period.

### 4.11.2.2 *Alternative 2: Develop Housing Projects and Relocate WWTP*

Under Alternative 2, minor temporary increases in noise levels are anticipated during the construction period. No sensitive receptors are located within 1 mile of the proposed housing sites; the Peter F. Alba School is located 0.75 mile from the proposed WWTP site. To reduce noise levels during the construction period, construction activities would take place during normal business hours. Equipment and machinery installed at the proposed project site would meet all local, state, and federal noise regulations.

### 4.11.2.3 *Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP*

Under Alternative 3, minor temporary increases in noise levels are anticipated during the construction period. No sensitive receptors are located within 1 mile of the proposed housing sites. To reduce noise levels during the construction period, construction activities would take place during normal business hours. Equipment and machinery installed at the proposed project site would meet all local, state, and federal noise regulations.

If the City chooses to relocate the WWTP using CDBG funds, then there would be minor temporary increases in noise levels during the construction period.

### 4.11.2.4 *Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects*

Under Alternative 4, minor temporary increases in noise levels are anticipated during the construction period. One sensitive receptor, the Peter F. Alba School, is located 0.75 mile from the proposed WWTP site. To reduce noise levels during the construction period, construction activities would take place during normal business hours. Equipment and machinery installed at the proposed WWTP site would meet all local, state, and federal noise regulations.

## 4.12 BIOLOGICAL RESOURCES

### 4.12.1 Existing Conditions

#### 4.12.1.1 *Terrestrial Ecosystems*

The proposed housing sites consist of grassed areas that have been previously disturbed. Plants identified during a site visit during August of 2007 include smut grass (*Sporobolus indicus*), torpedo grass (*Panicum repens*), Brazilian vervain (*Verbena brasiliensis*), jungle rice (*Echinochloa colona*), longtom (*Paspalum denticulatum*), mucronate sprangletop (*Leptochloa*

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*panacea*), bermudagrass (*Cynodon dactylon*), morning glory (*Ipomoea cordatotriloba*), field sowthistle (*Sonchus arvensis*), nightshade (*Solanum carolinense*) java-bean (*Senna obtusifolia*), Cuman ragweed (*Ambrosia psilostachya*), bahiagrass (*Paspalum notatum*), and greenbrier (*Smilax* spp.).

The site proposed for the WWTP contains a man-made pond formerly used for the disposal of dredged material; the edges of the pond are vegetated with cattail (*Typha* sp.), torpedo grass, and wax myrtle (*Myrica cerifera*). The remainder of the site is wooded and dominated by young slash pine (*Pinus elliottii*) with an understory of water oak (*Quercus nigra*) and scattered Chinese tallow tree (*Triadica sebifera*). Shrubs include gallberry (*Ilex glabra*), Elliott's blueberry (*Vaccinium elliotti*), elderberry (*Sambucus nigra*), and saw-tooth blackberry (*Rubus argutus*) (CBLB, 2007). The site proposed for the lift station is the influent and effluent line corridor to and from the WWTP site consists primarily of disturbed rights-of-way along roads.

In general, the terrestrial ecosystems of the housing sites and the proposed WWTP site support populations of white-tailed deer and smaller mammals such as opossum, raccoon, armadillo, skink, cottontail rabbit, gray squirrel, and fox. Bird species were noted during a 2007 site survey of the new WWTP site, including non-breeding winter residents such as ruby-crowned kinglet, house wren, yellow-rumped warbler, white-throated sparrow, and song sparrow. Blue jay and Carolina wren were also seen during the site inspection, and are likely breeding residents.

#### 4.12.1.2 Aquatic Ecosystems

In the project area, aquatic ecosystems are not found on the housing sites or the site proposed for the new WWTP, but only in Portersville Bay, where the effluent line would discharge.

Submerged aquatic vegetation (SAV), or seagrass, is a general term used to describe flowering plants submerged and rooted in the sediment. Generally, the high turbidity of coastal Alabama estuarine waters limits submerged vegetation to waters less than 6 feet deep. No SAV was identified in a bottom survey of the offshore treated effluent line route conducted in March 2007 (CBLB, 2007).

Natural public oyster reefs in Mobile Bay and Mississippi Sound cover about 3,064 acres. These reefs vary in size and are concentrated mostly in the southern half of Mobile Bay. A bottom survey of the offshore treated effluent line route conducted in March 2007 did not find oysters or oyster reef (CBLB, 2007). ADEM identified Portersville Bay as impaired for shellfish harvesting as a beneficial use due to pathogens discharged by the existing WWTP outfall (ADEM, 2006). The area surrounding the outfall is permanently closed to oyster harvest due to several known point sources of fecal pollution including the existing WWTP outfall (Mobile Bay National Estuary Program, 2004).

The sediments of Mississippi Sound support a macroinfaunal community consisting mostly of segmented worms, snails and clams, and crustaceans. The macroinfaunal community in the project area is typical of estuarine systems, with low diversity and overall abundance dominated by few species (Odum, 1988; Hyland et al., 1998).

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#### 4.12.1.3 Threatened and Endangered Species

The U.S. Fish and Wildlife Service (USFWS) lists the following federally endangered (E) and threatened (T) species for Mobile County (USFWS, 2007a):

Scientific Name	Common Name	Status
<i>Acipenser oxyrinchus desotoi</i>	Gulf sturgeon	T
<i>Charadrius melodus</i>	Piping Plover	T
<i>Caretta caretta</i>	Loggerhead sea turtle	T
<i>Chelonia mydas</i>	Green turtle	T
<i>Gopherus polyphemus</i>	Gopher tortoise	T
<i>Trichechus manatus</i>	West Indian manatee	E
<i>Picoides borealis</i>	Red-cockaded woodpecker	E
<i>Lepidochelys kempii</i>	Kemp's ridley sea turtle	E
<i>Sterna antillarum</i>	Least tern	E
<i>Drymarchon corais couperi</i>	Eastern indigo snake	T
<i>Pseudemys alabamensis</i>	Alabama red-bellied turtle	E
<i>Ambystoma cingulatum</i>	Flatwoods salamander	T
<i>Isoetes louisianensis</i>	Louisiana quillwort	E
<i>Mycteria americana</i>	Wood Stork	E

A site visit on August 22 and 23, 2007, verified that no habitat for any listed species exists within the proposed housing sites. A field survey of the sites proposed for the WWTP components was conducted in March 2007 for federally listed species (CBLB, 2007). No federally protected species or their habitats were identified during the 2007 site survey.

The Proposed Action Area does not contain habitat for any federally listed species; therefore, it is unlikely that any threatened and endangered species are present.

#### 4.12.1.4 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801-1882) established regional Fishery Management Councils and mandated that Fishery Management Plans be developed to responsibly manage exploited fish and invertebrate species in waters of the United States, including designating Essential Fish Habitat (EFH). EFH is defined as “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity” [16 U.S.C. § 1801(10)].

The Gulf of Mexico Fishery Management Council (GMFMC) has described EFH for 26 species (GMFMC, 1998). This document presented maps depicting EFH for all life stages of the 26 species. EFH is defined as everywhere that the 26 managed species commonly occur (GMFMC,

1998); however, most do not have defined EFH in the project area, including royal red shrimp, corals, and certain reef and pelagic fishes. EFH for managed species that overlap Mississippi Sound is presented in the table below.

<b>EFH species occurrence in Mississippi Sound</b>				
Alabama Estuarine EFH Species	Seasonal Occurrence			
	Spring (Mar–May)	Summer (June–Aug)	Fall (Sept–Nov)	Winter (Dec–Feb)
White shrimp ( <i>Litopenaeus setiferus</i> )	C	A	A	A/C
Brown shrimp ( <i>Farfantepenaeus aztecus</i> )	HA	HA	A	C
Pink shrimp ( <i>Farfantepenaeus duorarum</i> )	A/C	A/C	C	C
Juvenile Gulf stone crab ( <i>Menippe adina</i> )	C/R	C/R	C	C/R
Gray snapper ( <i>Lutjanus griseus</i> )	R	C/R	C	R
Juvenile red drum ( <i>Sciaenops ocellatus</i> )	C	C	C	C
Juvenile Spanish mackerel ( <i>Scomberomorus maculatus</i> )	C	C	C	R
Key: HA = highly abundant; A = abundant; C = common; R = rare				
Source: NOAA Biogeography Program				

## 4.12.2 Environmental Consequences

### 4.12.2.1 *Alternative 1: No Action*

Under the No Action Alternative, no adverse impacts to terrestrial resources or threatened or endangered species are anticipated. Adverse impacts to aquatic biological resources may continue to occur if the City chooses to continue operations of the existing WWTP, which provides only secondary treatment, not attaining water quality standards of the Bay regulated by ADEM. As a result, the facility’s effluents would continue to adversely affect water quality and biological resources in the Bay. If the City chooses to relocate the WWTP using CDBG funds, positive long-term impacts to aquatic biological resources would occur due to better wastewater treatment and improved water quality in the Bay.

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#### 4.12.2.2 *Alternative 2: Develop Housing Projects and Relocate WWTP*

##### A. *Housing Projects*

Under Alternative 2, approximately 52 acres of grassed habitat would be cleared of vegetation, graded, and converted to residential use on the two proposed housing sites.

On June 22, 2007, the USFWS determined that no endangered or threatened species or critical habitat are known to occur within the proposed action area of Alternative 2 that is located east of Shine Road (Safe Harbor Landing), and as described, that this portion of Alternative 2 would have no significant impact on fish and wildlife resources (see Appendix B).

In a letter dated September 21, 2006, from the USFWS to Ms. Janey Galbraith, the USFWS concurred that the portion of Alternative 2 that is located on the 39-acre parcel west of Shine Road (Safe Harbor Estates) will not have an impact on federally listed species (see Appendix B).

##### B. *WWTP*

Aquatic ecosystems, including oysters, would benefit from the water quality improvements in the Bay as a result of the proposed WWTP that would combine commercial and domestic wastewater streams and include tertiary treatment in order to discharge effluent that meets or exceeds ADEM water quality standards.

In a letter dated March 28, 2007, to the USFWS, the City stated that no listed species or their critical habitat were found during a survey of the WWTP, lift station, influent/effluent lines, and for the proposed avoidance alignment of the outfall pipeline in Portersville Bay. In a letter dated May 3, 2007, USFWS stated that no further endangered species consultation was necessary for federally listed terrestrial for the terrestrial portion of the [WWTP] project, unless changes to the proposed actions occur or a new species or its critical habitat is added to the federal list (see Appendix B). However, the USFWS requested additional information regarding installation methods, effluent standards, and water quality impacts in order for consultation to be concluded for the federally listed aquatic species. This information is being prepared for submission by the City to USFWS.

In a letter dated September 18, 2007, to the National Marine Fisheries Service (NMFS), FEMA requested project review and concurrence with the finding that the Alternative 2 would not adversely affect Essential Fish Habitat. NMFS responded in a letter dated September 25, 2007, stating that they do not have any EFH conservation recommendations to offer (see Appendix B).

#### 4.12.2.3 *Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP*

Under Alternative 3, approximately 52 acres of grassed habitat would be cleared of vegetation, graded, and converted to residential use on the two proposed housing sites. If the City chooses to continue operations of existing WWTP, the discharged effluent would continue to adversely affect water quality and biological resources in the Bay.

On June 22, 2007, the USFWS determined that no endangered or threatened species or critical habitat are known to occur within the proposed action area of Alternative 3 that is located east of Shine Road (Safe Harbor Landing), and as described, that this portion of Alternative 3 would have no significant impact on fish and wildlife resources (see Appendix B).

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In a letter dated September 21, 2006, from the USFWS to Ms. Janey Galbraith, the USFWS concurred that the portion of Alternative 3 that is located on the 39-acre parcel west of Shine Road (Safe Harbor Estates) will not have an impact on federally listed species (see Appendix B).

If the City chooses to relocate the WWTP using CDBG funds, positive long-term impacts to aquatic biological resources would occur due to better wastewater treatment and improved water quality in the Bay.

#### *4.12.2.4 Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects*

Aquatic ecosystems, including oysters, would benefit from the water quality improvements in the Bay as a result of the proposed WWTP that would combine commercial and domestic wastewater streams and include tertiary treatment in order to discharge effluent that meets or exceeds ADEM water quality standards.

In a letter dated March 28, 2007, to the USFWS, the City stated that no listed species or their critical habitat were found during a survey of the WWTP, lift station, influent/effluent lines, and for the proposed avoidance alignment of the outfall pipeline in Portersville Bay. In a letter dated May 3, 2007, USFWS stated that no further endangered species consultation was necessary for federally listed terrestrial for the terrestrial portion of the [WWTP] project, unless changes to the proposed actions occur or a new species or its critical habitat is added to the federal list (see Appendix B). However, the USFWS requested additional information regarding installation methods, effluent standards, and water quality impacts in order for consultation to be concluded for the federally listed aquatic species. This information is being prepared for submission by the City to USFWS.

In a letter dated September 18, 2007 to the National Marine Fisheries Service (NMFS), FEMA requested project review and concurrence with the finding that the proposed actions under Alternative 4 would not adversely affect Essential Fish Habitat. NMFS responded in a letter dated September 25, 2007, stating that they do not have any EFH conservation recommendations to offer (see Appendix B).

### 4.13 CULTURAL RESOURCES

#### 4.13.1 Existing Conditions

Section 106 of the National Historic Preservation Act (NHPA), as amended, and implemented by 36 CFR Part 800, requires federal agencies to consider the effects of their actions on historic properties and provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on federal projects that will have an effect on historic properties prior to implementation. Historic properties are defined as archeological sites, standing structures, or other historic resources listed in or eligible for listing in the National Register of Historic Places (NRHP).

##### A. *Housing Projects*

During the week of September 18, 2006, a Phase I cultural resources assessment of the proposed 39-acre Safe Harbor Landing site was conducted by Center for Archaeological Studies

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archeologists (Galbraith and Associates, 2007) within the area of potential effects (APE). The APE is the geographic area within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The assessment consisted of a pedestrian survey and the excavation of shovel test pits (STPs) within the project's APE. During the pedestrian survey, the ground surface was not visible due to the presence of tall grass. Human modifications of the site included installation of a cattle corral and watering hole. One archaeological site was recorded during the Phase I assessment, the Shine Road Home site. This site does not contain substantial archaeological deposits and is therefore not considered eligible for listing in the NRHP. No other artifacts or sites were found during the Phase I assessment.

On September 20, 2006, an electronic search of the Alabama State Archaeological Site Files was conducted for the 39-acre parcel on Shine Road (Safe Harbor Estates) (Galbraith and Associates, 2007). The search disclosed no known archaeological sites at the project site. However, one archaeological site has been recorded within approximately 1 mile of the project site. A field visit to the previously recorded site in 1996 yielded one positive shovel test. A search of the National Register Information System, maintained by the National Park Service, revealed no properties on or eligible for the NRHP within or adjacent to the project site.

On May 31, 2007, a Phase I cultural resources assessment of the 8-acre parcel was conducted by Center for Archaeological Studies archeologists within the APE (Galbraith and Associates 2007). The assessment consisted of a pedestrian survey and the excavation of STPs within the project's APE. Human modifications of the site included plowing, planting, and road construction. Modern trash was strewn across the developed trailer park that is currently located at the site. No significant artifacts or sites were found during the Phase 1 assessment.

On June 1, 2007, an electronic search of the Alabama State Archaeological Site Files was conducted for an 8-acre parcel on Shine Road (part of the 13-acre Safe Harbor Landing project site) (Seacat, 2007). The search disclosed no known archaeological sites at the project site. However, two archaeological sites have been recorded within approximately 1 mile of the project site. A field visit to one of the previously recorded sites in 1996 yielded one positive shovel test. At the second previously recorded site, twentieth century artifacts were documented. A search of the National Register Information System, maintained by the National Park Service, revealed no properties on or eligible for the NRHP within or adjacent to the 8-acre parcel.

## **B. WWTP**

Two surveys were conducted for the WWTP components of the Proposed Action; a remote sensing survey of the proposed outfall line in Portersville Bay conducted in February 2007 (Panamerican Consultants, 2007), and a Phase I Cultural Resources Assessment conducted by the Center for Archaeological Studies at the University of South Alabama (2007). Some small anomalies were identified during the remote sensing survey within the identified proposed outfall alignment. In order to avoid disturbance of the bottom where the anomalies exist, the outfall would be moved to a new alignment (Panamerican Consultants, 2007). The width of the benthic disturbance area during pipeline installation would be approximately 20 to 30 feet.

The Phase I assessment was conducted on the terrestrial portion of the proposed WWTP. On January 22, 2007, an electronic search of the Alabama State Archaeological Site Files was conducted for the 15-acre parcel that is the proposed location for the new WWTP (Center for Archaeological Studies, 2007). The search disclosed no known archaeological sites at the project

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site. In 1940, five prehistoric archaeological sites were recorded within 0.75 to 1 mile of the project site. A search of the National Register Information System, maintained by the National Park Service, revealed no properties on or eligible for the NRHP within or adjacent to the proposed WWTP project site.

On January 16, 2007, a Phase I cultural resources assessment of the proposed new WWTP site was conducted by Center for Archaeological Studies archeologists within the area of potential effects (APE) (Center for Archaeological Studies, 2007). The assessment consisted of a pedestrian survey and the excavation of STPs within the project's APE. Human modifications of the site include a berm surrounding the project site, a dirt road, a ditch, and multiple hunting trails. Debris was strewn across the site, probably washed in during Hurricane Katrina. No significant artifacts or sites were found during the pedestrian survey or STPs at the proposed site.

#### 4.13.2 Environmental Consequences

##### 4.13.2.1 *Alternative 1: No Action*

Under the No Action Alternative, no impacts to archeological or cultural resources would occur.

##### 4.13.2.2 *Alternative 2: Develop Housing Projects and Relocate WWTP*

Under Alternative 2, no impacts to archeological or cultural resources are anticipated. In a letter dated September 17, 2007, to the State Historic Preservation Officer (SHPO), FEMA requested an overall project review of all project components and the potential for cultural resources to be affected by the proposed actions (see Appendix B). In a response letter dated September 28, 2007, the SHPO reiterated its concurrence with FEMA's determination of no adverse effect of the proposed activities on cultural resources (see Appendix B).

In a letter dated September 18, 2007, to the Poarch Band of Creek Indians, a letter dated September 27, 2007, to the Seminole Tribe of Florida, and an email dated September 21, 2007, to the Mississippi Band of Choctaw Indians, FEMA requested project review of all project components and the potential for tribal resources to be affected by the proposed actions (see Appendix B). No responses have been received to date.

##### 4.13.2.3 *Alternative 3: Develop Housing Projects, No HMGP for Relocation of WWTP*

Under Alternative 3, no impacts to archeological or cultural resources are anticipated. In a response letter dated September 28, 2007, the SHPO concurred with FEMA's determination of no adverse effect of the proposed activities on cultural resources (see Appendix B). FEMA requested project review of all project components from the Poarch Band of Creek Indians (September 18, 2007, letter), the Seminole Tribe of Florida (September 27, 2007, letter), and the Mississippi Band of Choctaw Indians (September 21, 2007, email; see Appendix B). No responses have been received to date.

##### 4.13.2.4 *Alternative 4: Relocate WWTP, No AHPP for Development of Housing Projects*

Under Alternative 4, no impacts to archeological or cultural resources are anticipated. In a response letter dated September 28, 2007, the SHPO concurred with FEMA's determination of

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no adverse effect of the proposed activities on cultural resources (see Appendix B). FEMA requested project review of all project components from the Poarch Band of Creek Indians (September 18, 2007, letter), the Seminole Tribe of Florida (September 27, 2007, letter), and the Mississippi Band of Choctaw Indians (September 21, 2007, email; see Appendix B). No responses have been received to date.

## 5.0 CUMULATIVE IMPACTS

According to the Council on Environmental Quality (CEQ) regulations, cumulative impacts represent the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).” In accordance with NEPA and to the extent reasonable and practical, this EA considered the combined effect of the Proposed Action Alternatives and other actions occurring or proposed in the vicinity of the proposed project site.

Mobile County and the entire Alabama Gulf coast are undergoing recovery efforts after Hurricane Katrina caused extensive damages. The recovery efforts in Mobile County include demolition, reconstruction, and new construction. These projects and the proposed project may have a cumulative temporary impact on air quality in Mobile County by increasing criteria pollutants during construction activities. No other cumulative effects are anticipated.

## 6.0 PUBLIC INVOLVEMENT

FEMA’s goal is to expedite the preparation and review of NEPA documents for projects which it partially or completely funds, and to be responsive to the needs of the community and the purpose and need of the proposed actions under Alternatives 2, 3, and 4, while meeting the intent of NEPA and complying with all NEPA provisions.

The City of Bayou La Batre, Alabama, will notify the public of the availability of the draft Environment Assessment through publication of a public notice in a local newspaper. FEMA will conduct an expedited public comment period commencing on the initial date of publication of the public notice.

The City has published the following public notices:

- Notice to Public for Request of Release of Funds for construction of the proposed WWTP, published in the *Mobile Register* on November 9, 2007
- Finding of No Significant Impact for construction of the proposed WWTP, published in the *Mobile Register* on October 24, 2007
- Notice of Explanation for construction of the proposed WWTP, published in the *Mobile Register* on October 24, 2007
- Early Public Notice of development within a floodplain for construction of the proposed WWTP, published in the *Mobile Register* on October 8, 2007

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## 7.0 AGENCY COORDINATION AND PERMITS

The following agencies and organizations were contacted by letter requesting project review during the preparation of this EA. Responses received to date are included in Appendix B.

- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers
- U.S. Department of Agriculture, Natural Resources Conservation Service
- National Marine Fisheries Service
- Alabama Historic Preservation Commission
- Poarch Band of Creek Indians
- Seminole Tribe of Florida
- Mississippi Band of Choctaw Indians
- Alabama Department of Environmental Management Coastal Program
- Alabama Department of Environmental Management Water Division - Municipal Branch

In accordance with applicable local, state, and federal regulations, the applicant would be responsible for acquiring any necessary permits prior to commencing construction at the proposed project site including USACE and NPDES permits.

## 8.0 REFERENCES

Alabama Department of Environmental Management (ADEM). 2006. 2006 Alabama 303(d) List. Accessed October 26, 2007.

Bayou La Batre Chamber of Commerce. 2007. Bayou La Batre Chamber of Commerce website. <http://gulfinfo.com/bayoulabatre/>. Accessed October 26, 2007.

Center for Archaeological Studies. 2006. A Phase I Cultural Resources Assessment for a Proposed Residential Development Located on a 39-acre Tract West of Highway 188, Bayou La Batre, Mobile County, Alabama. Report prepared for Mayor Stan Wright, City Clerk, City of Bayou La Batre, Alabama. Prepared by Juan Garaiocoechea, Center for Archaeological Studies, HUMB 34, University of South Alabama, Mobile, AL 36688. September 26. CAS 2006.025.

Center for Archaeological Studies. 2007. A Phase I Cultural Resources Assessment for a Proposed 16-acre Wastewater Treatment Plant Development Located Northwest of the Intersection of Railroad Street and Barrett Lane, Mobile County, Alabama. Erroneously titled A Phase I Cultural Resources Assessment for a Proposed 16-acre Residential Development Located Northwest of the Intersection of Railroad Street and Barrett Lane, Mobile County, Alabama. Report prepared for Donna Gainey, City Clerk, City of Bayou La Batre, Alabama. Prepared by Juan Garaiocoechea, Center for Archaeological Studies, HUMB 34, University of South Alabama, Mobile, AL 36688. January 24. CAS 2007.004.

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- City of Bayou La Batre (CBLB). 2007. Environmental Review Record, Proposed Domestic and Industrial Wastewater Infrastructure Improvements, City of Bayou La Batre, Alabama. Submitted for Release of CDBG Funds (CDBG-DR-06-005). Prepared by: Barry A. Vittor & Associates, Inc. June.
- CBLB. 2006. Environmental Review at the Community Level: Format II Environmental Assessment for City of Bayou La Batre (DR-06-005) Sewer and Water Rehabilitation, Housing Construction and Rehabilitation, Clearance and Demolition, Storm-Related Debris Removal. HUD CDBG application.
- Environmental Data Resources, Inc. (EDR). 2007. The EDR Radius Map with GeoCheck, Safe Harbor Landing & Estates, Shine Road, Irvington, AL 36544. Inquiry Number 2018220.1s. August 30, 2007.
- EDR. 2007a. The EDR Radius Map with GeoCheck, Bayou La Batre WWTP, Railroad Street, Coden, AL 36523. Inquiry Number 2018220.2s. August 30, 2007.
- EDR. 2007b. The EDR Radius Map with GeoCheck, Middle Point, Downey Street, Bayou La Batre, AL 36509. Inquiry Number 2018220.3s. August 30, 2007.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS. NTIS No. AD A176 912.
- Federal Emergency Management Agency (FEMA). 1996. National Environmental Policy Act, FEMA Desk Reference. May 14, 1996.
- FEMA. 1998. Flood Insurance Rate Maps, Community Panel Number 01097C 0759 J, 01097C 0767 J, and 01097C 0769 J. [www.fema.gov](http://www.fema.gov). Accessed August 23, 2007.
- FEMA. 2007. Eight-Step Planning Process for Floodplain/Wetland Management. <http://www.fema.gov/plan/ehp/regionviii/8steps.shtm>. Accessed August 23, 2007.
- Gulf of Mexico Fishery Management Council (GMFMC). 1998. Generic Amendment for Addressing Essential Fish Habitat Requirements in the Following Fishery Management Plans of the Gulf of Mexico: Shrimp Fishery of the Gulf of Mexico, United States Waters, Red Drum Fishery of the Gulf of Mexico, Reef Fishery of the Gulf of Mexico, Coastal Migratory Resources (Mackerels) in the Gulf of Mexico and South Atlantic, Stone Crab Fishery of the Gulf of Mexico, Spiny Lobster Fishery of the Gulf of Mexico and South Atlantic, and Coral and Coral Reefs of the Gulf of Mexico. Tampa, FL. 238 pp.
- Hyland, J.L., L. Balthis, C.T. Hackney, G. McRae, A.H. Ringwood, T.R. Snoots, R.F. Van Dolah, and T.L. Wade, 1998. Environmental Quality of Estuaries of the Carolinian Province: 1995. Annual Statistical Summary for the 1995 EMAP-Estuaries Demonstration Project in the Carolinian Province. NOAA Technical Memorandum NOS ORCA 123.
- Mobile Bay National Estuary Program. 2004. Mobile Bay Oyster Gardening Program Training Manual. Partners: Auburn University Marine Extension & Research Center, Sea Grant Mississippi-Alabama, Gulf of Mexico Foundation, National Oceanic and Atmospheric Administration, and United States Environmental Protection Agency. Updated by Kim Hamilton February 11, 2004.

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- <http://www.mobilebaynep.com/site/Oyster%20Gardening/Manual.pdf>. Accessed October 29, 2007.
- National Oceanic and Atmospheric Administration (NOAA). 2007. State Coastal Zone Boundaries.  
<http://coastalmanagement.noaa.gov/mystate/docs/StateCZBoundaries.pdf#search=%22coastal%20zone%20%20mississippi%20noaa%22>. Accessed August 17, 2007.
- NOAA Biogeography Program. 2007. <http://biogeo.nos.noaa.gov/projects/efh/gom-efh/tx.shtml>.
- Odum, W.E., 1988. Comparative ecology of tidal freshwater and salt marshes. *Annual Review of Ecology and Systematics*, 19: 147-176.
- Panamerican Consultants, Inc. 2007. Remote Sensing Survey, Proposed Outfall Line, Portersville Bay, Mobile County, Alabama. Prepared for: Goodwyn, Mills and Cawood, Inc., 2660 East Chase Lane, Suite 200, Montgomery, Alabama, 36117. Prepared by: Panamerican Consultants, Inc., 91 Tillman Street, Memphis, Tennessee 38111. Revised Report of Findings. March.
- Seacat, Harriet L. Richardson. 2007. A Phase I Cultural Resources Assessment for a Proposed Residential Development Located on an 8-Acre Tract on Shine Road, Immediately South of Highway 188, Bayou La Batre, Mobile County, Alabama. Center for Archaeological Studies HUMB 34. University of South Alabama, Mobile, AL 3668. Prepared for Janey C. Galbraith, Galbraith and Associates, LLC, 7770 Country Squire Drive, Mobile, AL 36695.
- Shaw, J.K., P.G. Johnson, R.M. Ewing, C.E. Comiskey, C.C. Brandt, and T.A. Farmer. 1982. Benthic Macroinfauna Community Characterization in Mississippi Sound and Adjacent Waters. U.S. Army Corps of Engineers, Mobile District, Mobile, AL. 442 pp.
- U.S. Census Bureau. 2000. <http://www.census.gov>. Accessed August 13, 2007.
- USDA/NRCS. 1990. Mobile Field Office Technical Guide, Section II-A, Prime Farmland List.
- U.S. Environmental Protection Agency (EPA). 2007. The Greenbook.  
<http://www.epa.gov/oar/oaqps/greenbk/>. Accessed Aug 23, 2007.
- U.S. Fish and Wildlife Service (USFWS). 2007. National Wetlands Inventory Online Mapper.  
<http://wetlandsfws.er.usgs.gov/wtlnds/launch.html>. Accessed August 14, 2007.
- USFWS. 2007a. Federally Protected Species in Mobile County. Daphne (AL) Ecological Services Field Office. <http://www.fws.gov/daphne/es/specieslst.htm>. Accessed August 14, 2007.

**Appendix A**  
**Figures**

**Appendix B**  
**Agency Coordination**

**Appendix C**  
**Eight-Step Planning Process for Floodplain/Wetland Management**

**Eight-Step Planning Process for Floodplain/Wetland Management**

<p><b>Step 1:</b> Determine whether the Proposed Action is located in a wetland and/or the 100-year floodplain, or whether it has the potential to affect or be affected by a floodplain or wetland.</p>	<p><b>Project Analysis:</b> The City of Bayou La Batre (City) does not participate in the National Flood Insurance Program.</p> <p>According to Federal Emergency Management Agency (FEMA) mapping, a 13-acre parcel proposed for development into a residential community (Safe Harbor Landing), and an adjacent 39-acre parcel, also proposed for development into a residential community (Safe Harbor Estates) under FEMA’s Alternative Housing Pilot Program (AHPP) both lay within Zone X, outside of the 100-year floodplain.</p> <p>The results of a site visit and wetland delineation conducted on August 22, 2007, determined that Safe Harbor Landing does not contain wetlands or waters of the U.S. Safe Harbor Estates contains a non-jurisdictional man-made pond and a stream that is considered waters of the U.S. and would be regulated by the U.S. Army Corps of Engineers (USACE); however, no wetlands occur on the 39-acre site.</p> <p>According to FEMA mapping, the proposed wastewater treatment plant (WWTP), lift station, and influent and effluent lines are located in the 100-year floodplain associated with Portersville Bay.</p> <p>The project site for the proposed WWTP, lift station, and the influent/effluent lines and outfall do not contain jurisdictional wetlands, except for salt water marsh that occurs along the shoreline of Portersville Bay.</p>
<p><b>Step 2:</b> Notify public at earliest possible time of the intent to carry out an action in a floodplain or wetland, and involve the affected and interested public in the decision-making process.</p>	<p><b>Project Analysis:</b> The City published a public notice in <i>The Mobile Register</i> on August 10, 2006, to notify the public of a wide range of proposed infrastructure redevelopment projects that may occur within the 100-year floodplain in response to damages from Hurricane Katrina. Proposed rehabilitation activities included the replacement of 8 lift stations throughout the City.</p> <p>The City also published two public notices on August 26, 2006, in <i>The Mobile Register</i>: 1) a Notice of Explanation stating that no practicable alternatives had been identified for the locations of the proposed projects; and 2) a Notice of Finding of No Significant Impact on the Environment stating that no significant impacts to the</p>

**Appendix C**  
**Eight-Step Planning Process**

	<p>environment/floodplain would occur as a result of the proposed projects.</p> <p>A public notice will also be published by the City in a newspaper of general circulation to notify the public of the proposed WWTP relocation, the installation of new influent/effluent lines and the outfall to Portersville Bay. An Environmental Assessment (EA) is being prepared for the two AHPP community development sites and the WWTP, influent/effluent lines, and outfall; a public notice will be published when the EA is made available for public review.</p>
<p><b>Step 3:</b> Identify and evaluate practicable alternatives to locating the Proposed Action in a floodplain or wetland.</p>	<p><b>Project Analysis:</b> The WWTP, lift station, and influent/effluent lines are functionally dependent on being located near a body of water to facilitate discharge of treated water to Portersville Bay; implementation of these proposed actions would not increase the 100-year flood elevation of Portersville Bay and its associated streams and canals.</p> <p>Other than the No Action Alternative, there are no practicable alternatives for relocating the WWTP, lift station, and influent/effluent lines that would not involve impacts to the 100-year floodplain.</p> <p>The following alternatives were evaluated in the EA:</p> <p><i>Alternative 1:</i> No Action</p> <p><i>Alternative 2:</i> Relocate and Rebuild City of Bayou La Batre Wastewater Treatment Plant and Develop Safe Harbor Landing and Safe Harbor Estates Housing Communities</p> <p><i>Alternative 3:</i> Develop Safe Harbor Landing and Safe Harbor Estates Housing Communities and do not provide HMGP funds for the relocation of the WWTP.</p> <p><i>Alternative 4:</i> Relocate and Rebuild City of Bayou La Batre Wastewater Treatment Plant and do not provide AHPP funds for the development of the residential communities</p> <p><i>Alternatives Considered but Eliminated:</i></p> <p>No feasible alternative sites exist for the two proposed housing projects. The City considered an alternative to rebuild the WWTP in its existing location. The existing WWTP is vulnerable to storm surge from tropical storms and hurricanes, and rebuilding the WWTP on the same site would not alleviate the risk from future storm damage and</p>

## Appendix C Eight-Step Planning Process

	subsequent sewer overflows.
<p><b>Step 4:</b> Identify the full range of potential direct or indirect impacts associated with the occupancy or modification of floodplains and wetlands, and the potential direct and indirect support of floodplain and wetland development that could result from the Proposed Action.</p>	<p><b>Project Analysis:</b> No impacts to the floodplain would occur from the two housing projects, because they are located outside the 100-year floodplain. Impacts would occur to the stream located on the 39-acre Safe Harbor Estates parcel. It is anticipated that the City would be required to obtain a USACE Nationwide Permit for impacts to this stream. Impacts to the stream would be minimized during final design and mitigation would be conducted in accordance with the permit conditions.</p> <p>No impacts to the shoreline saltwater marsh wetlands in the area of the outfall line at the edge of Portersville Bay are anticipated because horizontal directional drilling (the majority of construction is done underground) would be used to install the effluent line beneath the wetland areas.</p> <p>Minor impacts to the 100-year floodplain would occur as a result of construction of the WWTP, lift station and influent/effluent lines.</p>
<p><b>Step 5:</b> Minimize the potential adverse impacts from work within floodplains and wetlands (identified under Step 4), restore and preserve the natural and beneficial values served by wetlands.</p>	<p><b>Project Analysis:</b> The WWTP will be relocated to an area that is outside of the coastal high hazard area (VE Zone), and would be elevated to the 500-year floodplain along with the construction of protective berms around the facility. Mitigation measures at the lift station include construction of flood walls around the facility in addition to wet well walls that would protect equipment.</p> <p>Projects adjoining the wastewater treatment system will be reviewed by the City, as necessary, to ensure that cumulative impacts to the floodplain are addressed.</p> <p>The City will follow all applicable local, State, and Federal laws, regulations and requirements and obtain and comply with all required permits and approvals, prior to initiating construction. No staging of equipment or project activities will begin until all permits are obtained. The City will apply best management practices for soil erosion prevention and containment of sediment during project activities. Should project activities be delayed for 1 year or more after the date of the EA, coordination and project review by the appropriate regulating agencies must be reinitiated.</p>
<p><b>Step 6:</b> Re-evaluate the Proposed Action to determine: 1) if it is still practicable in light of its exposure to flood hazards; 2) the extent to</p>	<p><b>Project Analysis:</b> Alternatives 2, 3, and 4 remain practicable based on the wastewater treatment</p>

## Appendix C Eight-Step Planning Process

<p>which it will aggravate the hazards to others; 3) its potential to disrupt floodplain and wetland values.</p>	<p>system and housing objectives.</p>
<p><b>Step 7:</b> If the agency decides to take an action in a floodplain or wetland, prepare and provide the public with a finding and explanation of any final decision that the floodplain or wetland is the only practicable alternative. The explanation should include any relevant factors considered in the decision-making process.</p>	<p><b>Project Analysis:</b> A public notice will be submitted informing the public of FEMA’s decision to proceed with the project. This notice will include rationale for development within the 100-year floodplain; a description of all significant facts considered in making the determination; a list of the alternatives considered; a statement indicating whether the action conforms to State and local standards; a statement indicating how the action affects the floodplain; and a statement of how mitigation will be achieved.</p>
<p><b>Step 8:</b> Review the implementation and post-implementation phases of the Proposed Action to ensure that the requirements of the Executive Orders are fully implemented. Oversight responsibility shall be integrated into existing processes.</p>	<p><b>Project Analysis:</b> This step is integrated into the National Environmental Policy Act process that will be satisfied with the EA and findings, and FEMA project management and oversight functions.</p>