

ALABAMA STATE EXPENDITURE PLAN (SEP)

Project #9: Extension of Effluent Force Main from Bayou La Batre WWTF

Project Description/Summary

- a) This phased project will design, permit, and construct an extension of the Bayou La Batre Wastewater Treatment Facility's (WWTF) outfall line to promote better mixing and to reduce shellfish closures when flow rates are exceeded. Implementation of this project to prevent shellfish closures will benefit the overall economy of south Mobile County.

Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

- a. **Need** - The present effluent force main from the Bayou La Batre Wastewater Treatment Facility (WWTF) extends approximately one (1) mile into Portersville Bay. Although the compliance of the WWTF is excellent, there have been studies to indicate that when the effluent flow rate reaches two (2) million gallons, it can cause a temporary closure of the nearshore "Oyster Aquaculture" leases, and when the flow reaches the permitted three (3) million gallons, a permanent closure will result. The closure issues are caused by high amounts of fresh water, including rain events, river stage levels, and outfalls directed into the harvesting areas. This has prompted state health officials to close oyster harvesting due to oysters harboring bacteria. Bayou La Batre officials are working with the ADCNR, Fish & Wildlife, Food & Drug Administration (FDA), US Army Corp of Engineers (USACE), Alabama Department of Environmental Management (ADEM), Mobile County Health Department officials, and the Nearshore Oyster Aquaculture Lease Holders to resolve this problem. The FDA recently conducted a Dye Study (2017) and proposed recommended solutions. Using the study referenced above, the project proposes to relocate the effluent discharge into Portersville Bay out five (5) miles into the Mississippi Sound. It is anticipated that this relocation will result in enhanced water quality and will provide adequate mixing to prevent negative impacts on the nearshore shellfish harvesting.

Purpose: The purpose of the project is to extend the Bayou La Batre WWTF Outfall Line to enhance water quality and prevent oyster garden closures.

Objectives: The primary objectives of this project are to:

- Incorporate the FDA's Dye Study and modeling performed by ADEM and EPA into the design process; and
 - Complete construction of an extended outfall line to enhance water quality and to protect natural resources.
- b. This activity is located in the Gulf Coast region and will be carried out in the Mississippi Sound south of Bayou La Batre in Mobile County, Alabama.

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- c. This project is expected to begin 7/1/2019 and end 6/30/2021 (2 years).
 - d. The proposed project will be implemented by Mobile County.
- b) This project will assist in the economic recovery of Bayou La Batre, one of the coastal Alabama cities hardest hit by the DWH Spill in 2010, by helping to prevent oyster bed closures. It will also improve the overall health of the oyster farming industry and other related natural resources and add short-term construction jobs to the area.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 - Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region (primary). Secondary activities include Category #2 - Mitigation of damage to fish, wildlife, and natural resources; Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; and Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 1: Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats;
- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region’s fresh, estuarine, and marine waters;
- Goal 3: Replenish and Protect Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project complies with the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats – Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats. These include barrier islands, beaches, dunes, coastal wetlands, coastal forests, pine savannahs, coastal prairies, submerged aquatic vegetation, oyster reefs, and shallow and deepwater corals; and
- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region’s fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to, and withdrawal from critical systems.

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Major Milestones

- a) Milestone 1: Complete bid process for engineering and design, incorporating ADEM, EPA, and FDA studies
- b) Milestone 2: Permitting
- c) Milestone 3: Complete bid process for construction
- d) Milestone 4: Complete construction
- e) Milestone 5: Post-project monitoring as required

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Extension of Effluent Force Main from Bayou La Batre WWTF will be:

- The extension of the WWTF outfall line 5 miles offshore from the current location

Table 10. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Extension of Bayou La Batre Outfall Line	Review of ADEM and EPA studies to guide engineering & design Relocation of WWTF outfall line to 5 miles offshore from current location Develop monitoring plan to assess water quality improvements	Prevention of oyster harvesting closures	Protection of seafood industry Improved water quality

Additional success criteria capturing the ecological benefits of this project will be selected at the grant application stage.

Monitoring and Evaluation

- a) Submission of the completed ADEM, EPA, and FDA studies to ADCNR
- b) Submission of final E&D to ADCNR for review and approval

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- c) Provide evidence to ADCNR that all required permits were obtained (including SHPO)
- d) Submit results of bid process to ADCNR prior to awarding contracts
- e) ADCNR will conduct periodic onsite reviews
- f) Submission of quarterly and final reports
- g) Post construction monitoring as required

Best Available Science

A Hydrographic Dye Study was recently conducted by the Food and Drug Administration (FDA) to determine the most acceptable location for the extension of the outfall line. This study included hydrodynamic and transport modeling, dye transport and dispersion comparison, dilution vs. radius distance comparison, and wind condition scenarios, as cited below:

Ao. Y. (2018). "Bayou La Batre WWTP Computer Modeling Results" [PowerPoint presentation]. U.S. Food and Drug Administration, College Park, MD.

In addition, this project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP [website](#) and the Bayou La Batre Watershed Management Plan, also available on the MBNEP [website](#)

Budget/Funding

- a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: \$16,068,000 (5%-15% - Planning, 95%-85% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.
- b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

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Other

Not applicable at this time.



Figure 9. The Extension of Effluent Force Main from Bayou La Batre WWTF will be implemented in Bayou La Batre, Alabama.