

ALABAMA STATE EXPENDITURE PLAN (SEP)

Project #23: Orange Beach North Sewer Force Main Upgrade

Project Description/Summary

- a) This project consists of the engineering and design and construction of approximately 8 miles of sewer force main from a point on Highway 180 in Orange Beach to an existing lift station on County Road 12. The area benefitted by this upgrade will include areas north and east of Wolf Bay to Josephine as well as areas directly served by the force main. Implementation of this project will prevent failures in the existing main and decrease the use of on-site septic systems.

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 City of Orange Beach sewer collection system currently serves areas north of the Intracoastal Waterway around the perimeter of Wolf Bay and the Josephine area. Wolf Bay has been recognized by the Alabama Department of Environmental Management (ADEM) and the US EPA as an Outstanding Alabama Water. According to the Wolf Bay Watershed Watch, "Wolf Bay and its watershed hosts a tremendous diversity of habitats that historically supported, and may still support, several Federally listed species including black bears, bald eagles, Florida manatees, sea turtles, Gulf sturgeons, red-cockaded woodpeckers, American alligators, Alabama red-bellied turtles, and Eastern indigo snakes." This portion of the sewer collection system relies on approximately 8 miles of Dimension Ration (DR) 32.5 High Density Polyethylene (HDPE) pipe that was installed in 1987. This was before American Waterways Association (AWWA) specifications for HDPE pipe of this size were released in 1990. The pipe has a very thin wall thickness (.392") and would be rated for 50 pounds per square inch (PSI) using current standards. Repair couplings and inserts are non-standard and have to be special ordered.

An independent study by the Substantial Solutions Corporation estimates the useful life for current installations of HDPE pipe to be about 50 years with thin walled products being about half of that. This product was installed 30 years ago and appears to be nearing the end of its useful life. As a precaution, new connections on this part of the system have been limited and no extensions into areas currently not served by public sewer can be considered.

Failure to address this force main will increase the likelihood of failure and the resulting contamination of the Wolf Bay watershed. In addition, the area served by the force main appears to be receiving increased development interest. Without sewer main improvement, there will be increased reliance on on-site septic systems.

ALABAMA STATE EXPENDITURE PLAN (SEP)

Purpose: The purpose of this project is to design and replace the existing force main with modern materials that are properly sized for current and future development.

Objectives: The primary objective of this project is to:

- Reduce the likelihood of sewer leaks adjacent to Wolf Bay and its tributaries;
 - Afford the ability to provide sewer service to anticipated developments; and
 - Reduce the number of new and existing on-site septic systems.
- b. This project is located in the Gulf Coast region and will be implemented in Baldwin County along the Alabama Gulf Coast. Locations affected will include areas north and east of Wolf Bay to Josephine as well as areas directly served by the force main.
- c. This project is anticipated to begin on 7/1/19 and end on 12/31/21 (2.5 years).
- d. The project will be implemented by the City of Orange Beach.
- b) This project will assist in the economic and ecological recovery of Orange Beach and surrounding waterways by helping to prevent sewage overflows and leaks into the local soils and waters, and by updating and increasing the integrity of Orange Beach's sewer system. It also has the potential to create short-term construction job opportunities.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #6 - Infrastructure projects benefitting the economy or ecological resources, including port infrastructure (primary).

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances

ALABAMA STATE EXPENDITURE PLAN (SEP)

community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

Major Milestones

- a) Milestone 1: Procurement for professional services
- b) Milestone 2: Data collection/modeling
- c) Milestone 3: Engineering and design
- d) Milestone 4: Permitting
- e) Milestone 5: Construction
- f) Milestone 6: Project monitoring

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Orange Beach North Sewer Force Main Upgrade project will be:

- Replacement of 8 miles of sewer force main

Table 24. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Replace existing sewer force mains in Orange Beach and surrounding areas	<p>Complete engineering and design</p> <p>Construct 8 miles of sewer line</p>	<p>Reduce and eventually eliminate the use of septic tank systems</p> <p>Enhance the ability to serve new and existing developments</p>	Improved economic resilience

Monitoring and Evaluation

- a) Submission of final E&D to ADCNR for review and approval
- b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)
- c) Submit results of bid process to ADCNR prior to awarding contracts
- d) ADCNR will conduct periodic onsite reviews

ALABAMA STATE EXPENDITURE PLAN (SEP)

- e) Submission of quarterly and final reports
- f) Post construction monitoring as required.

Best Available Science

A Best Available Science (BAS) review is required for programs and activities that would restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus of this project is to design and construct sewer force main improvements on Canal Road to improve opportunities for development; therefore, BAS does not apply.

Budget/Funding

- a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: \$5,350,850 (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.

Other

Not applicable at this time.

ALABAMA STATE EXPENDITURE PLAN (SEP)



Figure 23. The Orange Beach North Sewer Force Main Upgrade project will be implemented in the City of Orange Beach, Alabama.