Project 17-1300
Final Report
Calhoun County Arkansas Unpaved Roads Program Support

Executive Summary

This project addressed an unpaved road utilizing Environmental Sensitive Maintenance (ESM) practices in Calhoun County. Calhoun County is located in south Arkansas. Within the county, there are two 8-digit HUC watersheds; the Upper Ouachita and the Lower Ouachita- Smackover.

The waterbody that was the focus of this project is in the Locust Bayou Community and Locust Creek area of the Ouachita River (HUC 08040101). Calhoun County initially applied for an Arkansas Unpaved Roads Program (AURP) grant for $75,000 and would match that amount with $75,000 through in-kind services. However, funding within the AURP is limited to $300,000 and those grant dollars had been allocated to other prioritized projects. The decision was made to utilize NPS Management Program funding to initiate this project.

The goals were to build a triple 6x8 box culvert, elevate and stabilize the road, utilize rip-rap and fabric along steep slopes, relocate two culverts, and add two larger culverts. Through these goals, a reduction in sediment entering this waterway would be achieved.

Problems/Needs

Unpaved roads are the second leading cause of nonpoint source pollution and this impacts Arkansas' rivers, lakes, and municipal water sources. Sediment is the primary pollutant in unpaved roads usage. Arkansas has approximately 33,828 miles of unpaved roads and many of these roads are the main transportation route for the agriculture, forestry, energy, and outdoor recreation sectors. Unpaved roads and their ditches not only generate sediment but collect dirt-laden runoff from activities on adjacent lands.

The road site selected is in a low area. During storm events the road, due to its elevation, becomes flooded. As the flood waters recede, sediment from the road is transported into Locust Bayou.

Project Description

Environmentally Sensitive Practices (ESM) demonstrations were implemented to reduce pollutant loads and provide a more stable unpaved road. There were priorities that were used in selecting the project site and are listed below:

- A water body that has been determined to be impaired as a result of turbidity or sediment.
- A water body containing an aquatic species listed as threatened, endangered or a candidate species by the Federal Government.
- A water body used as a drinking source for people.
- A water body used as an interstate waterway.
- A water body the Arkansas Game and Fish Commission has determined contains a species of greatest conservation need.
- A water body important to agricultural or pastureland use; or
- A water body important to forestry land use

Using these priorities, the project site was located on Locust Bayou. Locust Bayou drains directly to the Ouachita River. The application noted that the road's profile would be raised, filter fabric and large rip rap would stabilize the slopes, a series of box culverts (3) would be installed, and additional culverts would be placed to allow for excess flow in the floodplain area.

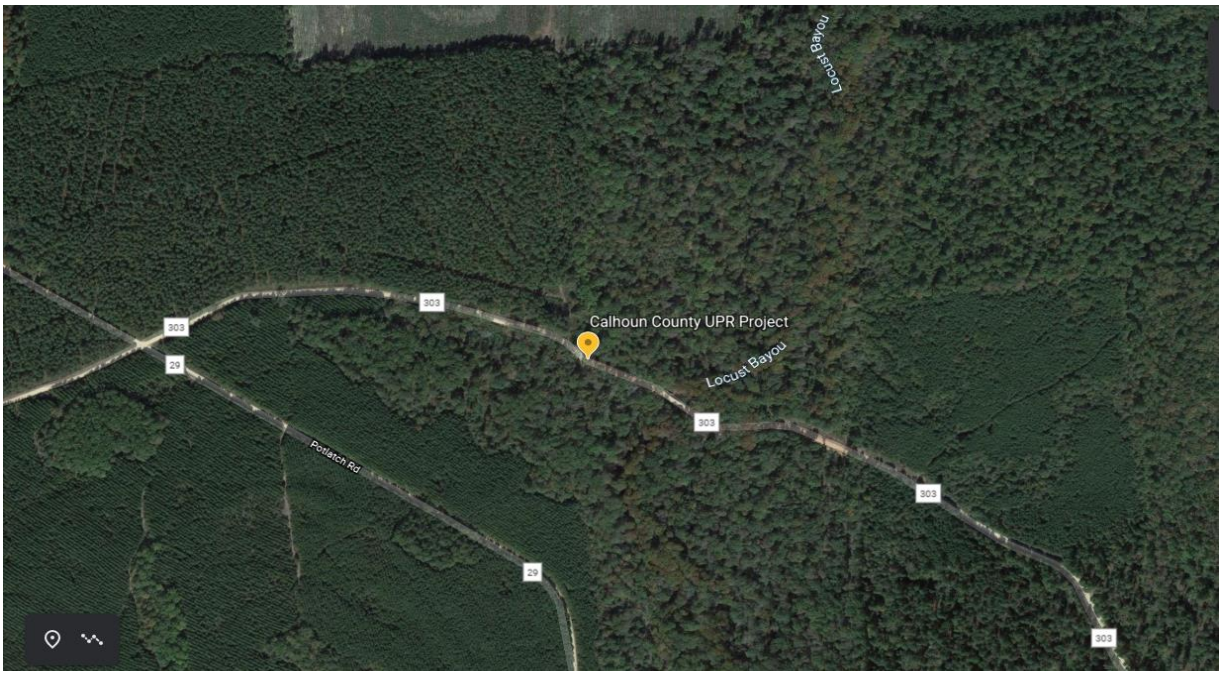

Figure 1: Map of Project Area and Locust Bayou

The Calhoun County Road Department implemented the project. The Arkansas Agriculture Department Natural Resources Division provided oversight and grant funding for the project. State Senator (Trent Garner) and two State Representatives (Sonia Barker and Jeff Wardlaw) provided letters of support for the project.

Results

Through this project, the Calhoun County Road Department was able to elevate County Road 303, install culverts, add fabric and rip rap to slopes, and install a triple 6'x8'x23' box culvert. The project length was 1,320 feet.


Figure 2: Triple 6x8x23 Box Culvert


Figure 3: Rip Rap and Fabric on Slopes

Figure 4: County Rd 303

Figure 5: Elevated County Rd 303

This project was initially approved for up to $75,000 initially, but the project ended up utilizing just $54,400 of EPA Federal Funds and matching those funds at a 55% rate. This project ended up being overmatched by $14,750. Labor match totals for the project totaled $19,159 and equipment usage totaled over $70K based upon FEMA costs. The funding breakdown of the project is shown below in Table 1:

Table 1: Summary of Funds	Amount
Funds provided to the County	
EPA Funds: EPA Grant # C9-996-10325	$54,400
TOTAL	$54,400
Funds provided by the County (Cash or In-Kind)	
In-Kind	$69,150
TOTAL Match	$69,150
TOTAL Project Cost	$123,550

Conclusions

This project implementation was successful and will reduce maintenance of the county road. By raising the roadbed, thus reducing flooding, this project will reduce sediment runoff. The project was approved in September of 2020 and the final payment was made in December of 2020.