

AN ARCHAEOLOGICAL SURVEY OF THE PROPOSED HURRICANE CREEK
DETENTION FACILITY NUMBER 1 IN CENTRAL ANGELINA COUNTY, TEXAS

Texas Antiquities Permit Number 2383

by

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AN ARCHAEOLOGICAL SURVEY OF THE PROPOSED HURRICANE CREEK
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BVRA Project Number 99-17

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ABSTRACT

Brazos Valley Research Associates (BVRA) performed an archaeological survey of an 80.75 acre detention facility in central Angelina County, Texas in June 2000 under Texas Antiquities Committee permit number 2383. The project area was investigated by shovel testing and probing. No archaeological sites were found within the boundaries of the project area, and it is recommended that construction be allowed to proceed as planned. Copies of the final report are on file at the Archeology Division, Texas Historical Commission; Texas Archeological Research Laboratory (TARL); the City of Lufkin; and BVRA in Bryan, Texas.

ACKNOWLEDGMENTS

BVRA is appreciative of the assistance provided by Mr. Keith R. Bille', P.E. (Project Manager), of Klotz Associates, Inc. of Lufkin, Texas and his assistant, Linda Lawrence. They provided BVRA with maps and helped the field crew locate the project area boundaries. Keith Wright, P.E. of the City of Lufkin and his assistant Debbie Fitzgerald, Engineering Designer, are also thanked for their part in this endeavor. At the state level, Carolyn Spock, Head of Records at TARL in Austin, Texas and her staff checked their files for previously recorded sites in the project area. Ed Baker of the Texas Historical Commission, Archeology Division, was the reviewer for this project. All figures in this report were prepared by Lili Lyddon of Lyddon Illustrations of North Zulch, Texas. The field crew consisted of James E. Warren (Project Archeologist), Bobby Jemison, and Tom McMasters.

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INTRODUCTION

The City of Lufkin proposes to construct Hurricane Creek Detention Facility Number 1 that will impound water in a natural basin fed by an unnamed tributary of Hurricane Creek in central Angelina County, Texas (Figure 1). The 80.75 acre project area is depicted on the topographic quadrangle, Lufkin (dated 1949 and photorevised in 1980) (Figure 2). It should be noted that this map is out of date as many current roads and subdivisions are not depicted. Angelina County contains significant prehistoric and historic sites. Therefore, an archaeological survey was recommended by the Archeology Division, Texas Historical Commission. In order to comply with this request, the City of Lufkin, through Klotz Associates, Inc., retained BVRA to conduct this service which was performed under Texas Antiquities permit 2383. The duties of Principal Investigator were performed by William E. Moore. The 80.75 acre project area is located in an urban setting in the city limits of Lufkin. It is bounded on the north by Ford Chappel Road and private land, on the south and east by private land, and on the west by a subdivision. An unnamed tributary of Hurricane Creek bisects the main portion of the project area.

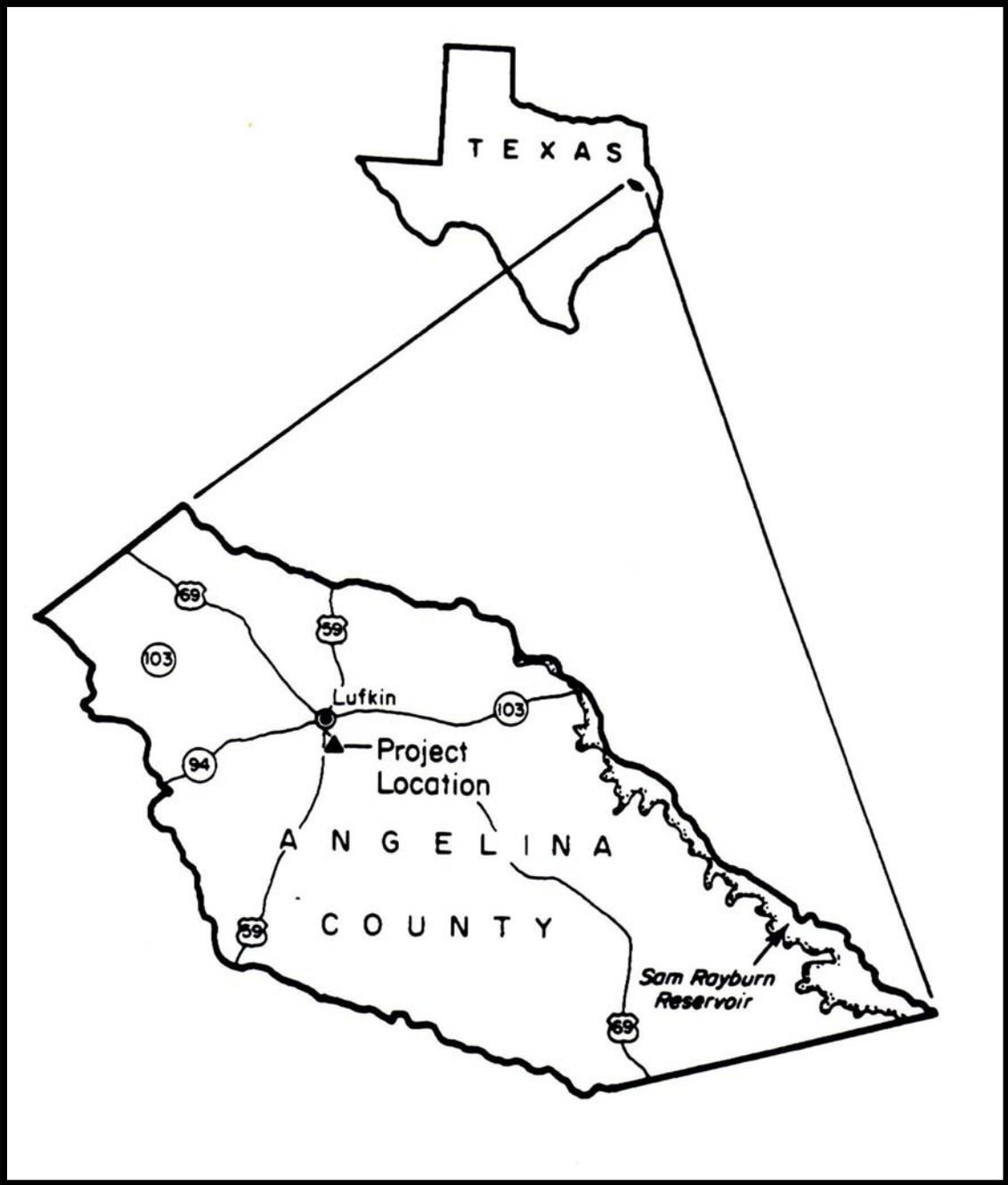


Figure 1. General Location Map

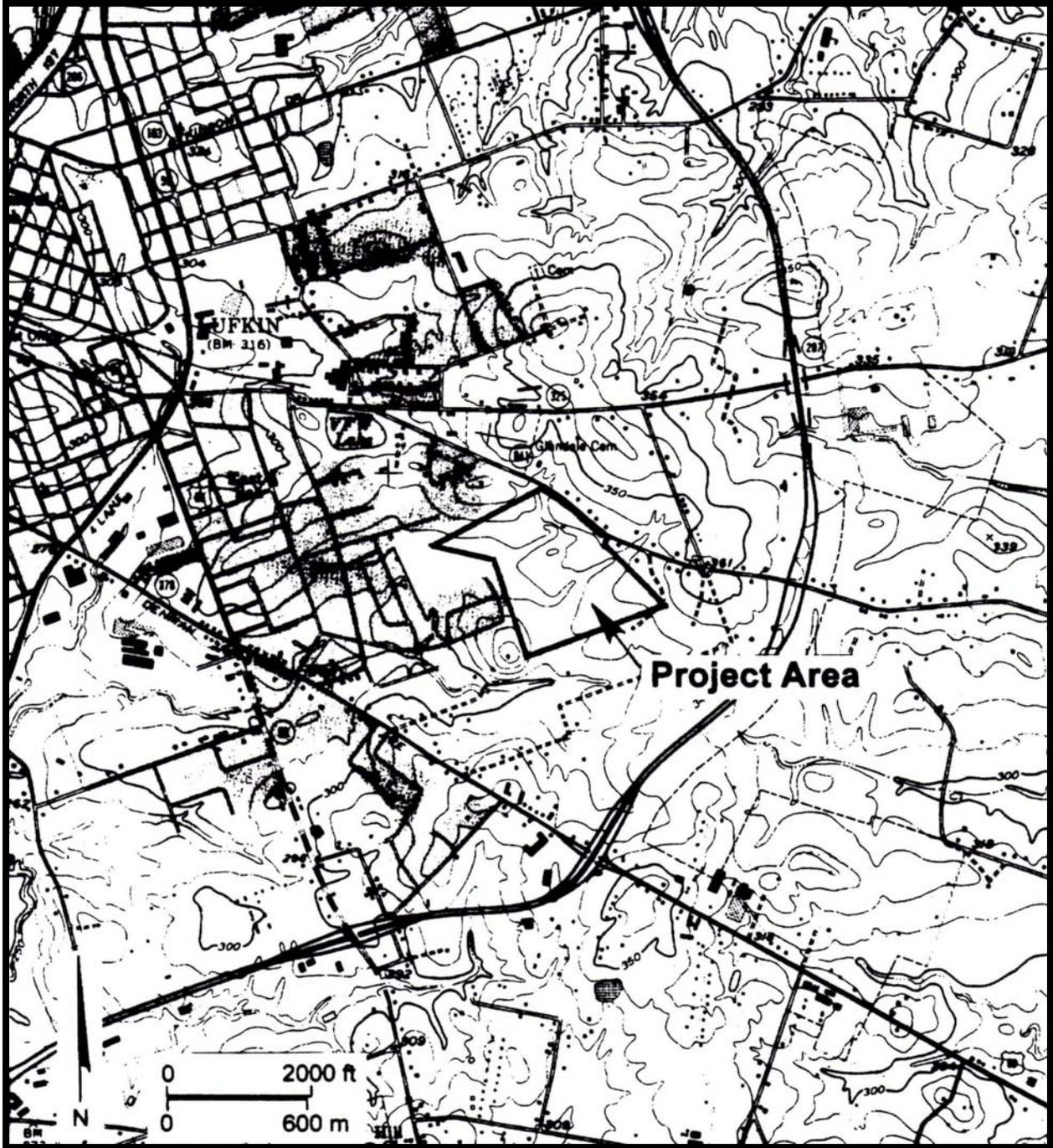


Figure 2. Project Area on Lufkin Topographic Quadrangle

ENVIRONMENTAL SETTING

The following general discussion of Angelina County was taken from the Soil Survey of Angelina County (Dolezel (1988:1-4). Angelina County is located in the central part of East Texas. The northern and southern parts of the county have a dendritic drainage system with many large streams. Two rivers, Neches and Angelina, drain the county. Elevation ranges from about 100 feet in the south near the Neches River to about 460 feet in the northern part of the county. Angelina County is in the East Texas Timberlands Land Resource Area and forest products are a major part of the local economy. Soils in this area formed mainly under forest vegetation in a humid environment, and most are light in color and low in natural fertility. Nearly level areas are often wet, and moderately steep to steep areas tend to erode easily. Descriptions of soils specific to the project area appear in the *Results and Conclusions* section of this report. Angelina County has long, hot summers because of moist tropical air from the Gulf of Mexico which persistently covers the area. Winters are cool and fairly short. Rainfall is fairly heavy throughout the year, and prolonged droughts are rare. The total annual precipitation is 41 inches. Of this, 21 inches (50%) usually falls in April through September. In winter, the average temperature is 50 degrees Fahrenheit, and the average daily minimum temperature is 39 degrees. In summer, the average temperature is 82 degrees, and the average daily maximum temperature is 93 degrees.

ARCHAEOLOGICAL BACKGROUND

According to a recently published planning document for the Eastern Planning Region of Texas (Kenmotsu and Perttula 1993:Figure 1.1.2), Angelina County is situated within the Northeast Texas archeological study region. In 1985, according to a statistical overview prepared by the Texas Historical Commission (Biesaart et al. 1985:107), Angelina County contained 52 recorded sites. The site files at TARL revealed 172 recorded sites at the time of this survey. In 1985, 1 site in the county had been excavated, 21 had been tested by hand, 1 had been tested by machine, 30 sites had been dug by collectors, and 46 had been surface collected. Nine recorded prehistoric sites in the county were listed as Archaic, and 41 sites were listed as Late Prehistoric (Biesaart et al. 1985:108). Five sites contained burials.

In 1991, an evaluation was made of significant sites in the Northeast Texas Archeological Region (Kenmotsu and Perttula 1993:Table 2.1.1). At this time Angelina County contained 121 recorded prehistoric sites; of this number 19 were listed as not significant, 67 as unknown significance, 35 as probably significant, and 22 as significant.

The archaeological significance of Angelina County is partially reflected in the following statistics. In 1993, the county contained the second highest number of important known hunter-gatherer sites in Northeast Texas (n=3) (Kenmotsu and Perttula 1993:Figure 2.3.3) and also contained at least 13 important Late Caddoan sites (n=13) (Kenmotsu and Perttula 1993:Figure 2.5.2). Unfortunately, there are major forces that continue to threaten the integrity of archaeological sites in Angelina County. These include population growth (City of Lufkin and surrounding area), highway construction, surface lignite mining, Sam Rayburn Reservoir (formerly McGee Bend), and the lumbering industry.

Although private contract archaeology firms have played a part, most of the archaeological sites known to exist in Angelina County have been identified by surveys associated with reservoir construction and in-house projects by National Forest personnel. The earliest archaeological research in the area was performed in the late 1930s and early 1940s by researchers from The University of Texas at Austin. At that time prehistoric cemeteries and mound sites were considered to be of primary importance. From the late 1940s until the mid 1970s, most of the archaeological research in East Texas was carried out in connection with reservoir construction. In 1948, for example, Robert L. Stephenson published the results of his work at the proposed McGee Bend Reservoir in Angelina, Jasper, Nacogdoches, Sabine, and San Augustine counties (Stephenson 1948a, 1948b). At the time this was the only systematic professional major archaeological investigation in the county.

In the 1970s, Ross Fields (1979) presented an overview of the cultural resources of the Davy Crockett, Sam Houston, Angelina, and Sabine National Forests of Texas. This document provides a brief discussion of all sites in each forest; 23 sites in Angelina County are mentioned. Another important document for this area is a cultural resource overview of the National Forests in Texas by John Ippolito (1983). Of particular relevance to this project is Ippolito's Figure 21 entitled "Drainage Systems & Probability Zones, Angelina National Forest, Texas." Although no part of the project area is within the Angelina National Forest, Ippolito's figure covers areas within 10 miles of the City of Lufkin. He considers the Neches and Angelina rivers to be high probability areas with several streams in the county listed as medium probability areas. According to Ippolito (personal communication, July 15, 1999), there are several drainages in the county such as Hurricane Creek and Biloxi Creek that should be considered to be medium to high probability areas. Ephemeral streams such as those in the current project area are viewed by Ippolito as low probability areas.

Most recently, four surveys of detention ponds have been performed in the general area (Murin 1999; Moore 2000a, 2000b). Not one of these proposed detention pond sites contained cultural materials.

It is beyond the scope of this report to discuss in detail the archaeological background of Angelina County, especially when numerous contract reports are available. The interested reader is referred to the statistical overview (Biesart et al. 1985), the planning document published by the Texas Historical Commission (Kenmotsu and Perttula 1993), and other reports cited above for more detailed information regarding the archaeology of Angelina County.

FIELD METHODS

This investigation was performed by utilizing the 100% pedestrian survey method. The entire 80.75 acres were walked by the survey crew at transect intervals of 30 meters or less. This investigation helped identify high and low probability areas within the project area. A large area of approximately 25 acres that had been cleared by the landowner prior to this survey was observed that contained less than 10% ground cover. Surface visibility was excellent; therefore, this cleared area was not shovel tested (Figure 3). Instead, the area was subjected to randomly placed shovel probes which revealed a very shallow sandy mantle (less than 10 cm) overlying a red clay. Another area of at least 15 acres was also examined by shovel probing. This level, clayey bottomland also contained a very shallow sandy mantle over red clay. One shovel test (ST 8) was dug in this area and revealed clay at 10 cm. The remaining portion of the project area (uplands) was considered to be the best locality for finding a prehistoric site. These uplands (approximately 40 acres), which were wooded, were subjected to shovel testing. In all, 23 shovel tests were dug in the uplands (Figure 3). All excavated matrix was screened using 1/4 inch hardware cloth and recorded on a shovel test log (Appendix I). All shovel tests were excavated to clay and ranged in depth from 10 to 50 cm. The number of shovel tests (n=23) dug in the high probability area exceeds the number per acre required by the *Archeological Survey Standards for Texas* as recommended by the Texas Historical Commission. Since clay was reached through shovel testing, backhoe trenching was not necessary.

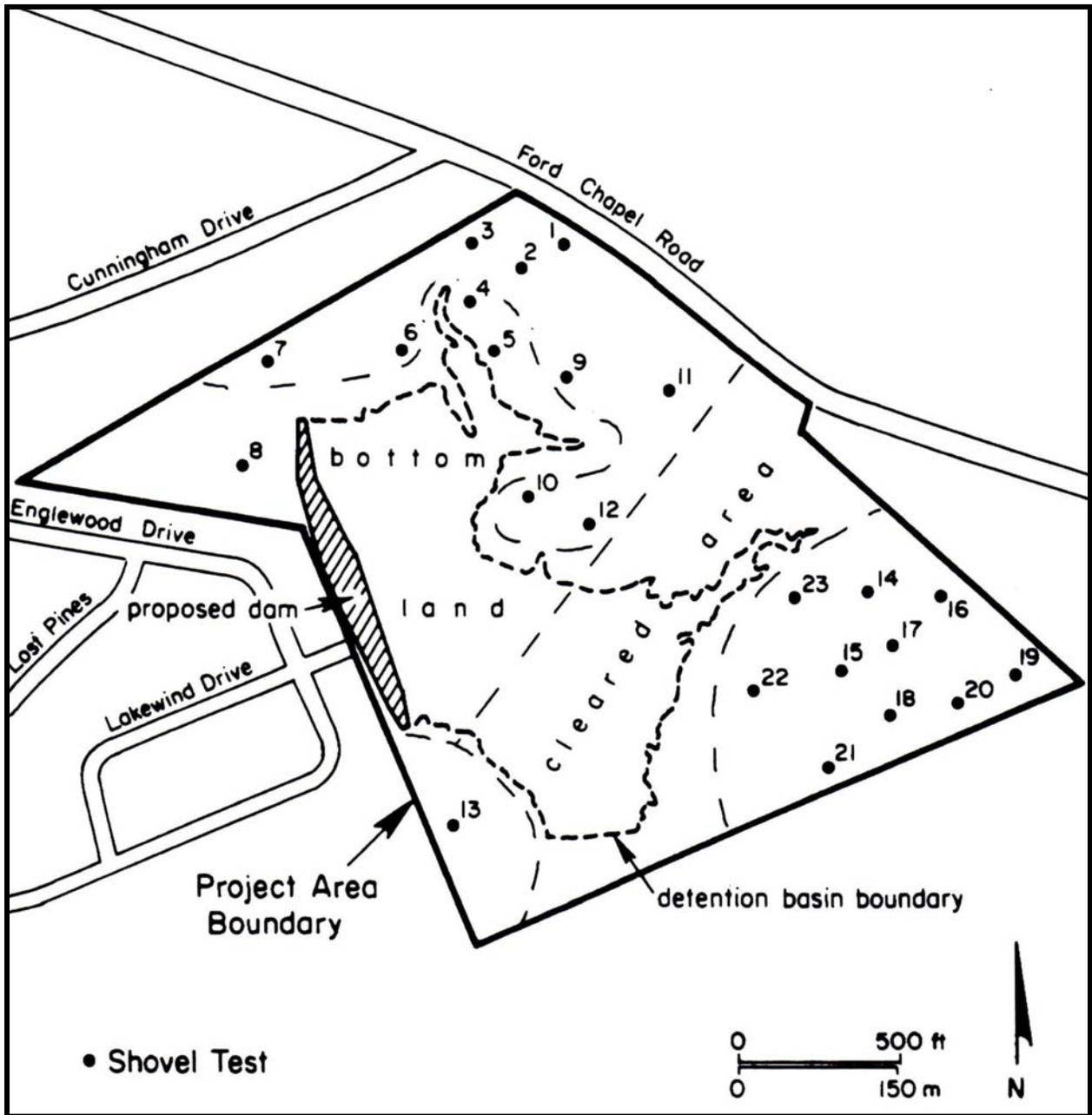


Figure 3. Shovel Tests

RESULTS AND CONCLUSIONS

The site records at TARL yielded no previously recorded archaeological sites in the project area. A review of the literature revealed that significant prehistoric and historic sites are present in Angelina County. One previously recorded prehistoric site (41AG21) is located on Cedar Creek near the confluence of this stream and Hurricane Creek. This site, recorded by Gus Arnold of the University of Texas at Austin in 1939 during his informal survey of East Texas, is the closest recorded site to the current project area. This prehistoric site is stated on the site form as about one acre in size on the top of a sandy ridge (250 foot contour) that slopes into "bottom land and creeks to the west and north." The age of this site is unknown; however, ceramics and projectile points suggest a Late Prehistoric or Caddoan component.

The project area was found to be in an area composed primarily of one soil type; Fuller-Urban Land Complex, 1 to 4 percent slopes (FuB). FuB soils are described in the *Soil Survey of Angelina County* by Dolezel (1988:36-37). The complex of gently sloping Fuller soil and Urban land is found on slightly concave to smooth uplands. It is about 50 percent Fuller soil, 35 percent Urban land, and 15 percent other soils. Typically, this Fuller soil has a fine sandy loam surface layer about 23 inches thick. It is dark grayish-brown in the upper part and grayish-brown with strong brown mottles in the lower part. The subsoil is clay loam to a depth of 42 inches. The subsoil has pockets of light gray silty material throughout. Crawfish burrows are common throughout the surface and subsoil layers. The underlying material is siltstone. Fuller soil is somewhat poorly drained and very slowly permeable. This soil also has a high seasonal water table. The urban land part of this complex is covered by streets, parking lots, and other structures that obscure or alter the soils so that identification is not feasible.

The project area consists of a level, clayey bottomland (approximately 15 acres) and uplands and slopes (approximately 65 acres). The creek, which bisects a portion of the regional detention basin, consists of a wide, shallow valley with no defined creek channel. This stream, as it appears today, suggests that it would not have been a dependable source of water in prehistoric times. In fact, only a small portion of the creek near the dam may have contained water following seasonal rains. Near the proposed dam, a shallow creek channel was observed; inspection of the creek revealed red clay in the bank. Although the project area is bisected by a tributary of Hurricane Creek, it appears that this area was not considered a suitable location for prehistoric occupation. This tributary may not have been a dependable source of water in the past, and other areas along the main stream (Hurricane Creek) may have been selected instead. Also, much of the project area was on a side slope instead of on top of the landform. This may have been a factor in the absence of cultural materials. The lack of deep sandy soils in the project area also point to a low probability area for prehistoric sites. The 23 shovel tests averaged only 21.73 cm in depth.

RECOMMENDATIONS

Based on the absence of archaeological sites in the project area, it is recommended that construction be allowed to proceed. It is always possible that sites are missed during any archaeological survey. Should evidence of a prehistoric or historic site in the project area right-of-way be discovered during construction, all work in this area should cease immediately until the Archeology Division, Texas Historical Commission can evaluate the situation.

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APPENDIX I: SHOVEL TEST LOG*

Shovel Test 1 was dug through fine sandy loam (10YR 6/2) to a depth of 10 cm where red clay was encountered. This test was sterile.

Shovel Test 2 was dug through fine sandy loam (10YR 6/2) to a depth of 30 cm where red clay was encountered. This test was sterile.

Shovel Test 3 was dug through a disturbed stratum to a depth of 30 cm where red clay was encountered. This test contained 20th century glass. It was sterile.

Shovel Test 4 was dug through red sandy clay (5YR 5/5) to a depth of 10 cm. This test was sterile.

Shovel Test 5 was dug through red sandy clay (5YR 5/5) to a depth of 10 cm. This test was sterile.

Shovel Test 6 was dug through red sandy clay (5YR 5/5) to a depth of 10 cm. This test was sterile.

Shovel Test 7 was dug through a fine sandy loam (10YR 6/2) to a depth of 15 cm where red clay was encountered. This test was sterile.

Shovel Test 8 was dug through red sandy clay (5YR 5/5) to a depth of 10 cm. This test was sterile.

Shovel Test 9 was dug through a fine sandy loam (10YR 6/2) to a depth of 15 cm where red clay with ironstone was encountered. This test was sterile.

Shovel Test 10 was dug through a red clay loam (5YR 5/5) to a depth of 40 cm where red clay was encountered. This test contained petrified and ironstone. It was sterile.

Shovel Test 11 was dug through a fine sandy loam (10YR 6/2) to a depth of 15 cm where red clay was encountered. This test was sterile.

Shovel Test 12 was dug through a red clay loam (5YR 5/5) to a depth of 30 cm where red clay was encountered. This test contained petrified and ironstone. It was sterile.

Shovel Test 13 was dug through a fine sandy loam (10YR 6/2) to a depth of 20 cm where red clay was encountered. This test contained petrified wood. It was sterile.

Shovel Test 14 was dug to a depth of 50 cm where sandy clay was encountered. A clay loam (10YR 4/2) was present from 0-40 cm and contained petrified wood. From 40-50 cm sandy clay (10YR 6/1) was present. This test was sterile.

Shovel Test 15 was dug to a depth of 30 cm where yellow clay was encountered. A clay loam (10YR 4/2) was present from 0-20 cm. From 20-30 cm yellow clay (10YR 6/5) was present. This test was sterile.

Shovel Test 16 was dug to a depth of 25 cm where yellow clay was encountered. A clay loam (10YR 4/2) was present from 0-15 cm. From 15-25 cm yellow clay (10YR 6/5) was present. This test was sterile.

Shovel Test 17 was dug to a depth of 30 cm where yellow clay was encountered. A clay loam (10YR 4/2) was present from 0-20 cm. From 20-30 cm yellow clay (10YR 6/5) was present. This test was sterile.

Shovel Test 18 was dug to a depth of 30 cm where yellow clay was encountered. A clay loam (10YR 4/2) was present from 0-20 cm. From 20-30 cm yellow clay (10YR 6/5) was present. This test was sterile.

Shovel Test 19 was dug to a depth of 25 cm where yellow clay was encountered. A clay loam (10YR 4/2) was present from 0-15 cm. From 15-25 cm yellow clay (10YR 6/5) was present. This test was sterile.

Shovel Test 20 was dug to a depth of 10 cm where yellow clay (10YR 6/5) was encountered. From 0-10 cm clay loam (10YR 4/2) was present. This test was sterile.

Shovel Test 21 was dug to a depth of 15 cm where red clay was encountered. From 0-15 cm a fine sandy loam (10YR 6/2) was present. This test was sterile.

Shovel Test 22 was dug to a depth of 20 cm where red clay was encountered. From 0-15 cm a fine sandy loam (10YR 6/2) was present. This test was sterile.

Shovel Test 23 was dug to a depth of 20 cm where red clay was encountered. From 0-15 cm a fine sandy loam (10YR 6/2) was present. This test was sterile.

* All shovel tests were 30 x 50 cm in diameter and excavated in arbitrary 10 cm levels.

APPENDIX I: SHOVEL TEST LOG*

Shovel Test 1 was dug through fine sandy loam (10YR 6/2) to a depth of 10 cm where red clay was encountered. This test was sterile.

Shovel Test 2 was dug through fine sandy loam (10YR 6/2) to a depth of 30 cm where red clay was encountered. This test was sterile.

Shovel Test 3 was dug through a disturbed stratum to a depth of 30 cm where red clay was encountered. This test contained 20th century glass. It was sterile.

Shovel Test 4 was dug through red sandy clay (5YR 5/5) to a depth of 10 cm. This test was sterile.

Shovel Test 5 was dug through red sandy clay (5YR 5/5) to a depth of 10 cm. This test was sterile.

Shovel Test 6 was dug through red sandy clay (5YR 5/5) to a depth of 10 cm. This test was sterile.

Shovel Test 7 was dug through a fine sandy loam (10YR 6/2) to a depth of 15 cm where red clay was encountered. This test was sterile.

Shovel Test 8 was dug through red sandy clay (5YR 5/5) to a depth of 10 cm. This test was sterile.

Shovel Test 9 was dug through a fine sandy loam (10YR 6/2) to a depth of 15 cm where red clay with ironstone was encountered. This test was sterile.

Shovel Test 10 was dug through a red clay loam (5YR 5/5) to a depth of 40 cm where red clay was encountered. This test contained petrified and ironstone. It was sterile.

Shovel Test 11 was dug through a fine sandy loam (10YR 6/2) to a depth of 15 cm where red clay was encountered. This test was sterile.

Shovel Test 12 was dug through a red clay loam (5YR 5/5) to a depth of 30 cm where red clay was encountered. This test contained petrified and ironstone. It was sterile.

Shovel Test 13 was dug through a fine sandy loam (10YR 6/2) to a depth of 20 cm where red clay was encountered. This test contained petrified wood. It was sterile.

Shovel Test 14 was dug to a depth of 50 cm where sandy clay was encountered. A clay loam (10YR 4/2) was present from 0-40 cm and contained petrified wood. From 40-50 cm sandy clay (10YR 6/1) was present. This test was sterile.

Shovel Test 15 was dug to a depth of 30 cm where yellow clay was encountered. A clay loam (10YR 4/2) was present from 0-20 cm. From 20-30 cm yellow clay (10YR 6/5) was present. This test was sterile.

Shovel Test 16 was dug to a depth of 25 cm where yellow clay was encountered. A clay loam (10YR 4/2) was present from 0-15 cm. From 15-25 cm yellow clay (10YR 6/5) was present. This test was sterile.

Shovel Test 17 was dug to a depth of 30 cm where yellow clay was encountered. A clay loam (10YR 4/2) was present from 0-20 cm. From 20-30 cm yellow clay (10YR 6/5) was present. This test was sterile.

Shovel Test 18 was dug to a depth of 30 cm where yellow clay was encountered. A clay loam (10YR 4/2) was present from 0-20 cm. From 20-30 cm yellow clay (10YR 6/5) was present. This test was sterile.

Shovel Test 19 was dug to a depth of 25 cm where yellow clay was encountered. A clay loam (10YR 4/2) was present from 0-15 cm. From 15-25 cm yellow clay (10YR 6/5) was present. This test was sterile.

Shovel Test 20 was dug to a depth of 10 cm where yellow clay (10YR 6/5) was encountered. From 0-10 cm clay loam (10YR 4/2) was present. This test was sterile.

Shovel Test 21 was dug to a depth of 15 cm where red clay was encountered. From 0-15 cm a fine sandy loam (10YR 6/2) was present. This test was sterile.

Shovel Test 22 was dug to a depth of 20 cm where red clay was encountered. From 0-15 cm a fine sandy loam (10YR 6/2) was present. This test was sterile.

Shovel Test 23 was dug to a depth of 20 cm where red clay was encountered. From 0-15 cm a fine sandy loam (10YR 6/2) was present. This test was sterile.

* All shovel tests were 30 x 50 cm in diameter and excavated in arbitrary 10 cm levels.