**ATTACHMENT 19a - PHASE I ARCHAEOLOGICAL STUDY**

Contract Publication Series LA10-44

# A CULTURAL RESOURCE SURVEY OF THE PROPOSED LOUISIANA ECONOMIC DEVELOPMENT CERTIFIED SITE IN CADDO PARISH, LOUISIANA

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Lead Agency: LA SHPO

# ABSTRACT

Cultural Resource Analysts, Inc., personnel completed a records review and cultural resource survey for a proposed Louisiana Economic Development Certified Site in Caddo Parish, Louisiana. This work was conducted at the request of Jacob Herrington of Franks Investment Company, L.L.C. The records review for this project was conducted on December 17, 2010. Fieldwork for this project was conducted from December 28, 2010, through January 11, 2011. The project area is located west of the City of Shreveport, north of Greenwood Road and just west of the Greenwood Road and Bert Kouns Industrial Expressway intersection. The area investigated consisted of approximately 126.67 ha (313 acres).

The records review consisted of a file search using information provided by the Louisiana Office of Cultural Development Division of Archaeology to identify cultural resources or cultural resource investigations documented in the area. The records review indicated that no previous survey and no cultural resources were documented within the current project area.

Field investigation consisted of an intensive pedestrian survey supplemented with screened shovel tests. This work identified two sites (16CD330 and 16CD331) and one isolated find (IF-1). These sites and the isolated find were located in the vicinity of mapped structures depicted on the 1945 Greenwood, Louisiana, United States Geological Survey topographic map and may represent the limited remains of three late nineteenth through twentieth century homesteads and the activities associated with them. These areas were heavily disturbed and the minimal evidence of the structures suggests they may have been removed from the area. The only feature observed at any of the locations was a brick-lined well that was present at Site 16CD331. This was an open well that did not appear to contain a significant amount of cultural material. Based on the findings of the records review and cultural resource survey, no archaeological sites or historic properties listed in, or recommended eligible for, the National Register of Historic Places will be affected by the proposed construction activities, and cultural resource clearance is recommended.

# TABLE OF CONTENTS



# LIST OF FIGURES



# LIST OF TABLES

# I. INTRODUCTION

Cultural Resource Analysts, Inc. (CRA), personnel completed a file search on December 17, 2010, and fieldwork between December 28, 2010, and January 11, 2011, for the proposed Louisiana Economic Development (LED) Certified Site in Caddo Parish, Louisiana (Figure 1.1). This file search and cultural resource survey was conducted at the request of Jacob Herrington of Franks Investment Company, L.L.C., to meet the requirements of the LED certification program. The proposed project area consisted of approximately 126.67 ha (313 acres) of mixed hardwood and pine forest. The archaeological file search using information provided by the Louisiana Office of Cultural Development Division of Archaeology (LA SHPO) was conducted by Justin Morrison. Fieldwork for the project was completed by Paul D. Bundy, Jason D. Weston, Justin B. Morrison, and J. Joshua Hill in approximately 200 person hours. The cultural resource survey was supervised by Jason D. Weston. A copy of the Scope of Work is provided as Appendix A.

## Purpose of Study

The study was conducted to comply with requirements set forth by the LED Certified Sites Program. This program is designed to make Louisiana more competitive for economic development deals by certifying sites that have the ability to break ground within 90 days because all rights to build are in place. LA SHPO reviewed data concerning the project as a part of the program. Upon review of the project information they requested a phase I archaeological survey prior to any construction in the area.

The purpose of this assessment was to 1) locate, describe, evaluate, and to make appropriate recommendations for the future treatment of any historic or prehistoric archaeological properties that may be affected by proposed construction activities, and 2) to assess the potential for archaeological sites requiring preservation in place.

**Figure 1. Map showing the location of Caddo Parish in the state of Louisiana.**

## Project Description

Franks Investment Company, L.L.C., is proposing to acquire an LED certification for this property (Figures 2 and 3). Certification of this property is intended to promote development at the location. The proposed project area consisted of approximately 126.67 ha (313 acres). More specifically, the project area extends north of Greenwood Road approximately 1.9 km (1.17 mi). The width reaches approximately 809 m (2,654 ft) east to west.

## Summary of Findings

The records review conducted using data available from the LA SHPO indicated that no portion of the project area had been previously surveyed, and no sites were recorded within the area.

Fieldwork located two historic sites (16CD330 and 16CD331) and one isolated find (IF-1). These locations corresponded with three structures depicted on the 1945 Greenwood, Louisiana, United States Geological Survey (USGS) 15-minute topographic quadrangle map. Site 16CD330 consisted of a heavily disturbed, low density scatter of historic debris. Artifacts included glass, metal, brick fragments and historic ceramics. No features or structures were observed at this location.

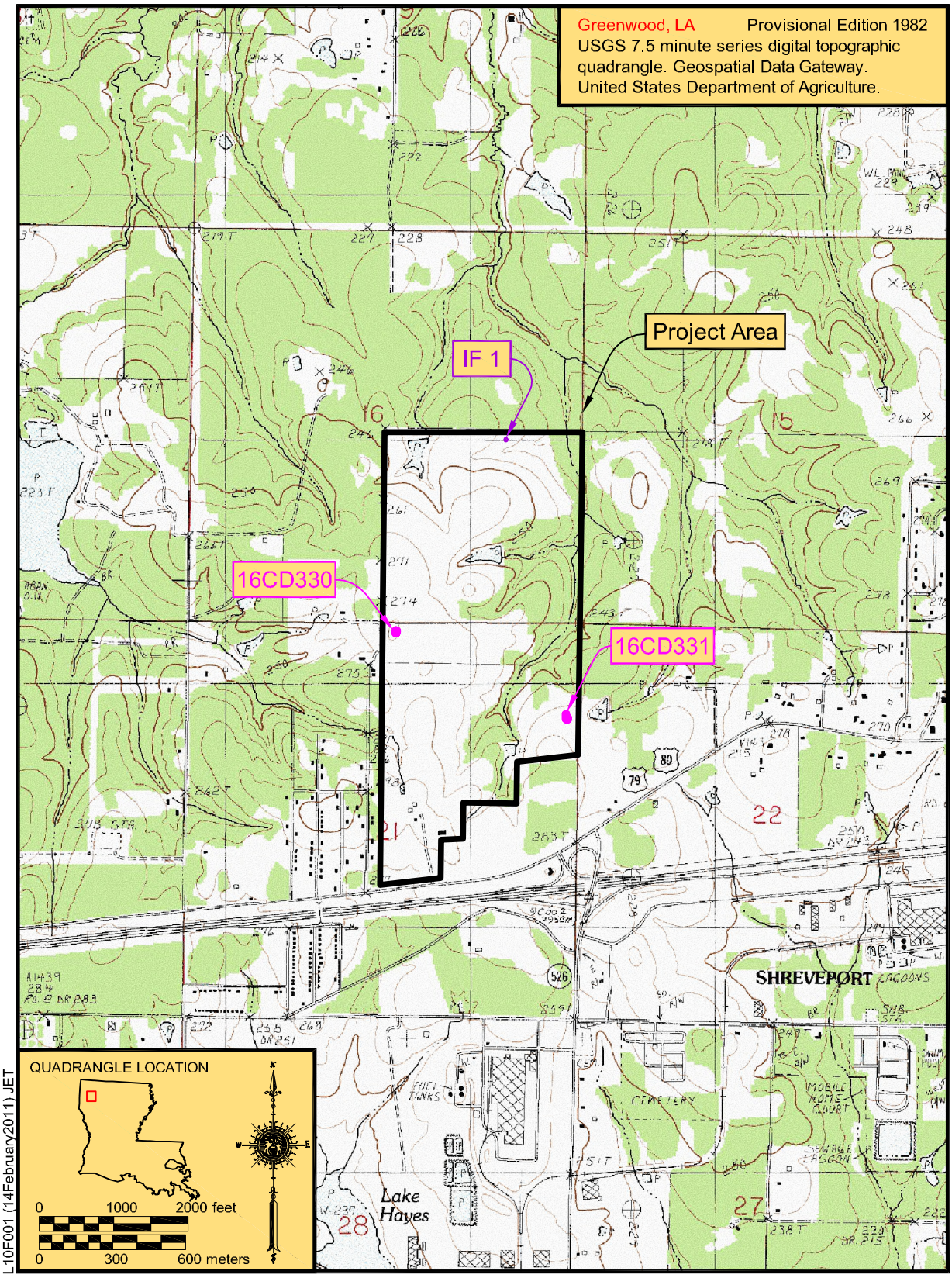


Figure 2. Topographic map showing the location of the project area.

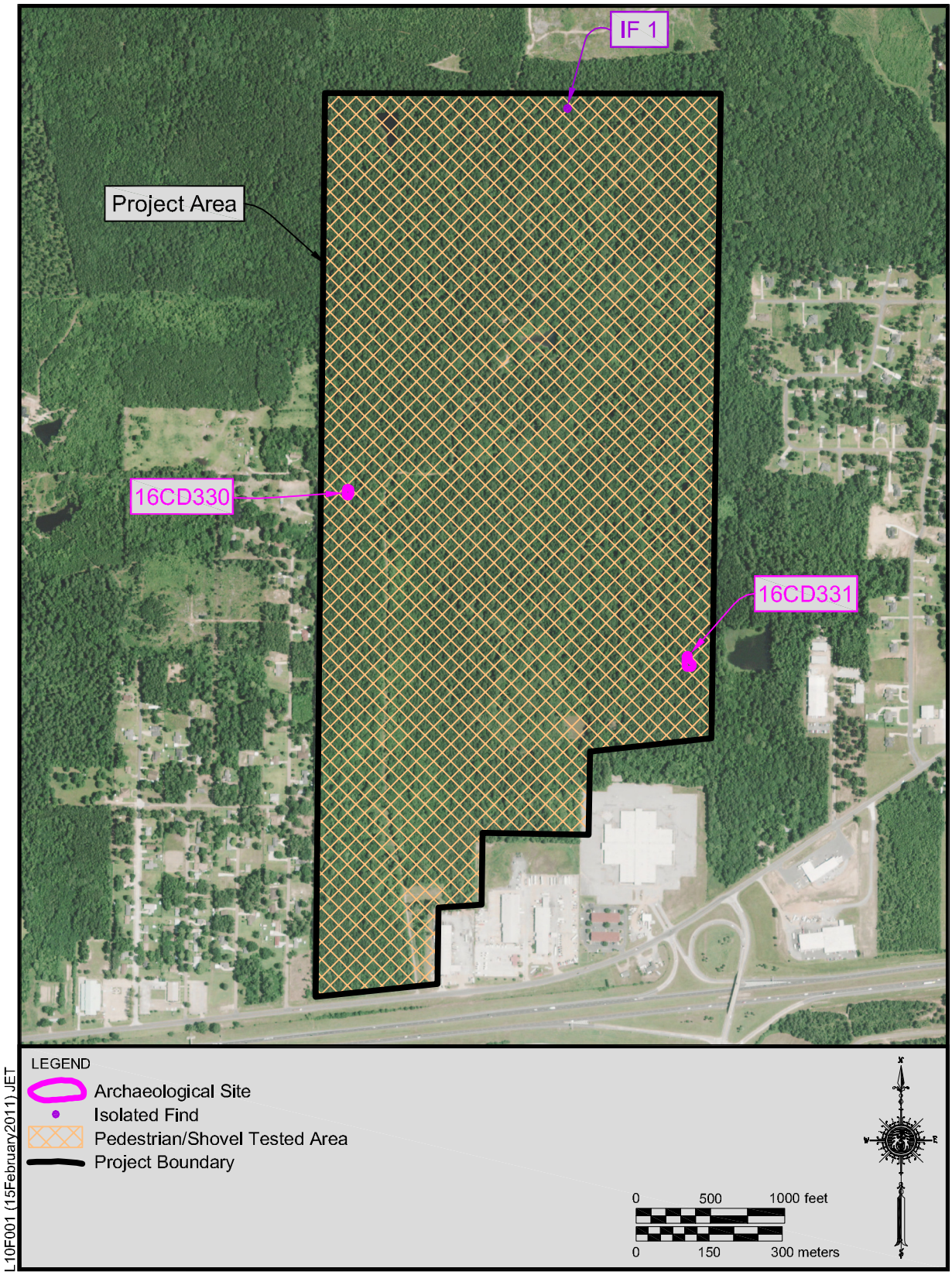


Figure 3. Project location depicted on the 2006 Aerial map.

Site 16CD331 was also a disturbed, low density scatter of historic domestic and architectural debris. This site contained one intact feature, a brick-lined well. This well was open and appeared unlikely to contain significant archaeological deposits.

The IF-1 location yielded a single brick fragment. No features, structures, or other artifacts were found during shovel testing in this area.

These resources are recommended not eligible for the National Register of Historic Places. The lack of intact archaeological deposits and connection to a significant person or event in history suggest limited research potential for these resources. For these reasons, no archaeological sites or historic properties listed in, or recommended eligible for, the National Register of Historic Places will be affected by the proposed construction activities. Therefore, cultural resource clearance is recommended.

# II. ENVIRONMENTAL

This section of the report provides a description of the modern environment and considers those aspects of the physical environment that may have influenced the location and methods for finding archaeological sites. The discussion of the modern environment specifically provides information regarding the physiography, soils, vegetation, and climate.

## Physiography

The project area is located in Caddo Parish, Louisiana, which is part of the West Gulf Coastal Plain Physiographic Region. Most of this area is typified by pine trees in the uplands and hardwoods in the bottomlands. This pattern is consistent with the vegetation patterns in the current project area. The understory vegetation grows more densely in areas where trees have been removed and allowed greater access to sunlight and water. This is particularly notable along the two-track access road leading into the project area, and may have implications for the identification of historic activities/disturbances. The drainages within the project area empty northwards into Page Bayou located approximately 2 mi to the north. Page Bayou then empties into Cross Lake. There are several small ponds built into the drainages in the project area.

Elevation in Caddo Parish ranges from approximately 140 ft above sea level on the Red River alluvial plain along the south, to 465 ft above sea level in the uplands in the northern regions of the parish (Edwards et al. 1980:1).

## Soils

Soils within the project area were identified utilizing the Web Soil Survey online database maintained by the Natural Resource Conservation Service (NRCS 2011).

The most common soils within the project area are Woodtell fine sandy loam (1–3 percent slopes) and Woodtell fine sandy loam (3–8 percent slopes) (NRCS 2011). These soils are residuum derived from sandstone and shale bedrock of the Wilcox and Cook Mountain formations dating to the Eocene Epoch (56 to 34 million years ago (NRCS 2011). These soils occur in interfluvial settings (NRCS 2011). Woodtell fine sandy loams (1–3 percent slope) soils typically have a dark brown hue (10YR 2/2 10YR 5/2; 10YR 4/3 10YR 6/4; 10YR 4/4 10YR 5/4) very dark brown to yellowish brown; fine sandy loam from 0–22 cm (0–9 in) overlaying a red clay subsoil mottled with brown and gray inclusions. Woodtell fine sandy loam (3–8 percent slope) soils are typically brown fine sandy loam, 0–12 cm (0–5 in) overlaying a red clay subsoil with brown inclusions, from 12–55 cm (5 22 in). In many locations of the current project area erosion has occurred in the past, and the clay subsoil is revealed at approximately 5–10 cm (1.07 3.94 in) below the surface. Bedrock is typically more than 165 cm (65 in) below surface (NRCS 2011). A few small gravels are occasionally present and iron concretions are common.

In the southeastern portion of the project area, soils are alluvial Keithville very fine sandy loam (2–5 percent slopes) (NRCS 2011). This soil typically has a brown to yellowish-

brown very fine sandy loam from 0–22 cm (0 9 in) overlaying a yellowish red to strong brown loam from 22–90 cm (9–35 in). Bedrock is typically more than 178 cm (70 in) below surface (NRCS 2011). A few small gravels are occasionally present and iron concretions are common.

A narrow, north–south oriented band of Guyton frequently flooded soils occurs along the northeastern edge of the project area (NRCS 2011). These soils are a loamy alluvium derived from Holocene aged soils (NRCS 2011). This soil typically is a brown to light brownish-gray silt loam that extends from 0–53 cm (0–21 in) and overlays a grayish brown silt loam subsoil mottled with shades of brown, extending from 53–152 cm (21–60 in). Bedrock is typically more than 152.4 cm (60 in) below surface (NRCS 2011). A few small gravels are occasionally present.

## Vegetation

The West Gulf Coastal Plain physiographic region is located within the Southern Pine Forests of the lower Mississippi Valley. It should be noted that within the last 150 years this area has undergone massive changes due to excessive logging that has taken place throughout this region. Much of the bottomland hardwood and upland mixed forests have been converted into commercial pine forest (Jeter and Williams 1989). Their composition and relative abundance vary greatly from place to place. In addition to the longleaf pine, the southern pine forests in the area also include extensive areas of slash pine, loblolly, and short leaf pine, most of which have been introduced more extensively with the vast increase in logging in the last 100 years.

## Modern Climate

The modern climate of Caddo Parish is described as humid and subtropical, dominated by warm, moist air pushing north from the Gulf of Mexico. Periodically, this air is replaced by incursions of polar air moving south out of Canada. These incursions happen more frequently in the winter and spring seasons, typically lasting no longer than a few days at a time. Sharp contrasts in weather conditions are noticeable on each side of the frontal boundary that separates polar air from tropical air. Northern cold fronts during winter months are typically followed by low cloud cover and strong winds, and temperatures at this time may fall into the thirty-to-forty degrees F range. Over the span of a day, skies generally clear, winds calm, and freezing temperatures may occur overnight. South of the frontal boundary, tropical air may cause temperatures to reach 70 degrees F throughout the winter months, as moisture is carried north from the Gulf. Rainfall is most frequent during the spring, primarily April, when an average of 5.2 inches is observed in the month alone. July and August experience the least amount of precipitation for the area, with an average of 2.7–2.9 inches (Edwards et al. 1980).

## Description of the Project Area

The project area is generally located in the southwest portion of Shreveport, Louisiana. Situated on the north side of Greenwood Road, this project area extends approximately 1.9 km (1.17 mi) north. The width reaches approximately 809 m (2,654 ft) east to west. This area is a broad upland region. A majority of this area is currently pine forest, mixed with secondary growth trees and low brush (Figure 4).

Disturbance observed in the project area most likely resulted from logging in the area and the construction and/or destruction and removal of historic structures, rural roads, and levees built during pond construction. Three ponds are located in the project area. One is located in the northwest portion, one in the eastern portion, and one in the southeastern portion of the project area. Two unimproved roads run roughly north to south through the project area. One of these roads bisects the area and runs the entire length of the area. The other road has been abandoned for some time, and is currently overgrown.

**Figure 4. Project area overview, facing south.**

Sediments in the project area generally had a shallow brown (10YR 5/3) A Horizon, overlying a dark yellowish brown (10YR 4/4) to dark yellowish brown (10YR 4/6) sandy clay/sand loam Bw-horizon. Below 30–40 cm bgs, brown (10YR 4/3) to strong brown (7.5 YR 5/6) or olive (5Y4/4) matrix colors are common, and there is an increase in clay content and redoximorphic features. This profile generally conforms to the description of the soils mapped in the area.

# III. PREVIOUS RESEARCH AND CULTURAL OVERVIEW

On December 17, 2010, a search of records maintained by the NRHP (available online at: http://www.nr.nps.gov/nrloc1.htm) and the Louisiana State Historic Preservation Office was conducted to: 1) determine if the project area had been previously surveyed for archaeological resources; 2) identify any previously recorded archaeological sites that were situated within the project area; 3) provide information concerning what archaeological resources could be expected within the project area; and 4) provide a context for any archaeological resources recovered within the project area. The examination of LA SHPO data consisted of a review of professional survey reports and records of archaeological sites for an area encompassing a 1 mi radius of the project. The review of professional survey reports and archaeological site data in the area provided basic information on the types of archaeological resources that were likely to occur within the project area and the landforms that were most likely to contain these resources. The results are discussed below.

LA SHPO records revealed that no previous professional phase I archaeological surveys have been conducted and no sites were recorded in the project area. One cultural resource survey was conducted within a 1 mi radius of the current project area. This project is discussed below.

# Previous Cultural Resource Investigations

One archaeological survey (Report number 22-0980, and addendum 22-0980-1) was conducted within the 1.6 km (1.0 mi) buffer of the LED project area. This consisted of an architectural and cultural resource survey that was required prior to improvements to the city of Shreveport's sewerage system. This survey was performed by Louisiana Tech University in 1984, and an addendum was completed in 1986. No cultural material was located during these surveys.

# Map Data

In addition to the file search, a review of available maps was conducted to help identify any historic structures that may be located within the project area. The following maps were reviewed:

1945 Greenwood, Louisiana, 15-minute series topographic quadrangle (United States Geological Survey [USGS])

1969 Greenwood, Louisiana, 7.5-minute series topographic quadrangle (USGS)

1982 Greenwood, Louisiana, 7.5-minute series topographic quadrangle (USGS)

The reviewed maps indicated structures greater than 50 years in age in the project area, specifically in the vicinity of 16CD330, 16CD331, and Isolated Find 1. Additional mapped structures dating from the 1960s were shown to have existed within the project area, but were recognized as being modern in age. This area has experienced some landscape modification over time, and all structures modern or historic in age have been demolished and/or removed. The results of the map review for each map are presented below.

## 1945 USGS

This map indicates three residences within the project area (Figure 5). The mapped locations generally correspond with 16CD330, 16CD331, and Isolated Find 1. 16CD330 yielded a scatter of historic debris, but no structures were present. 16CD331 also lacked any structures, though a brick-lined well was present, along with a small sample of historic items. IF-1 consisted of a brick fragment, but no other structural elements were observed in the area.

## 1969 USGS

Four habitation sites are identified on the 1969 USGS Quadrangle within the LED site project area (Figure 6). One of these locations is identified as Site 16CD330. The other three locations lacked significant archaeological deposits, structures, and were subsequently deemed too recent in age for consideration. Site 16CD331 is not indicated on this map.

## 1982 USGS

The 1982 USGS quadrangle shows a total of four habitation sites within the LED Certified Site project area. These correspond to three modern structures that appeared in the 1969 USGS quad, as well as one additional location. Sites 16CD330 and 16CD331 are not indicated on this map.

# Survey Predictions

Considering the known distribution of sites in the parish, the available information on site types recorded, and the nature of the present project area, certain predictions were possible regarding the kinds of sites that might be encountered within the project area. The relatively low density of historic and prehistoric archaeological sites in the immediate area suggested either a low density of sites or a lack of previous research. Prehistoric open habitations were considered

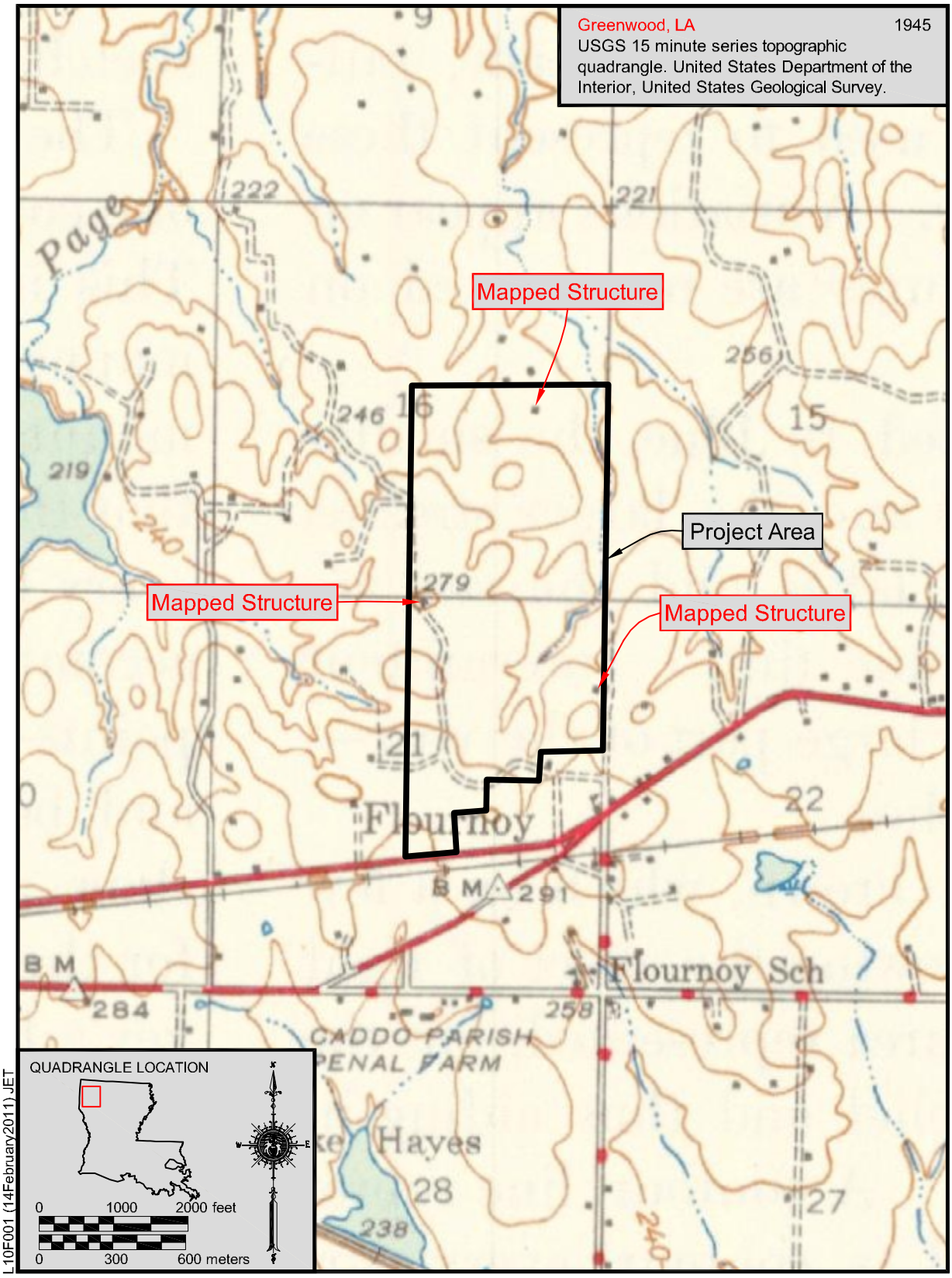


Figure 5. Project location depicted on the 1945 topographic map.

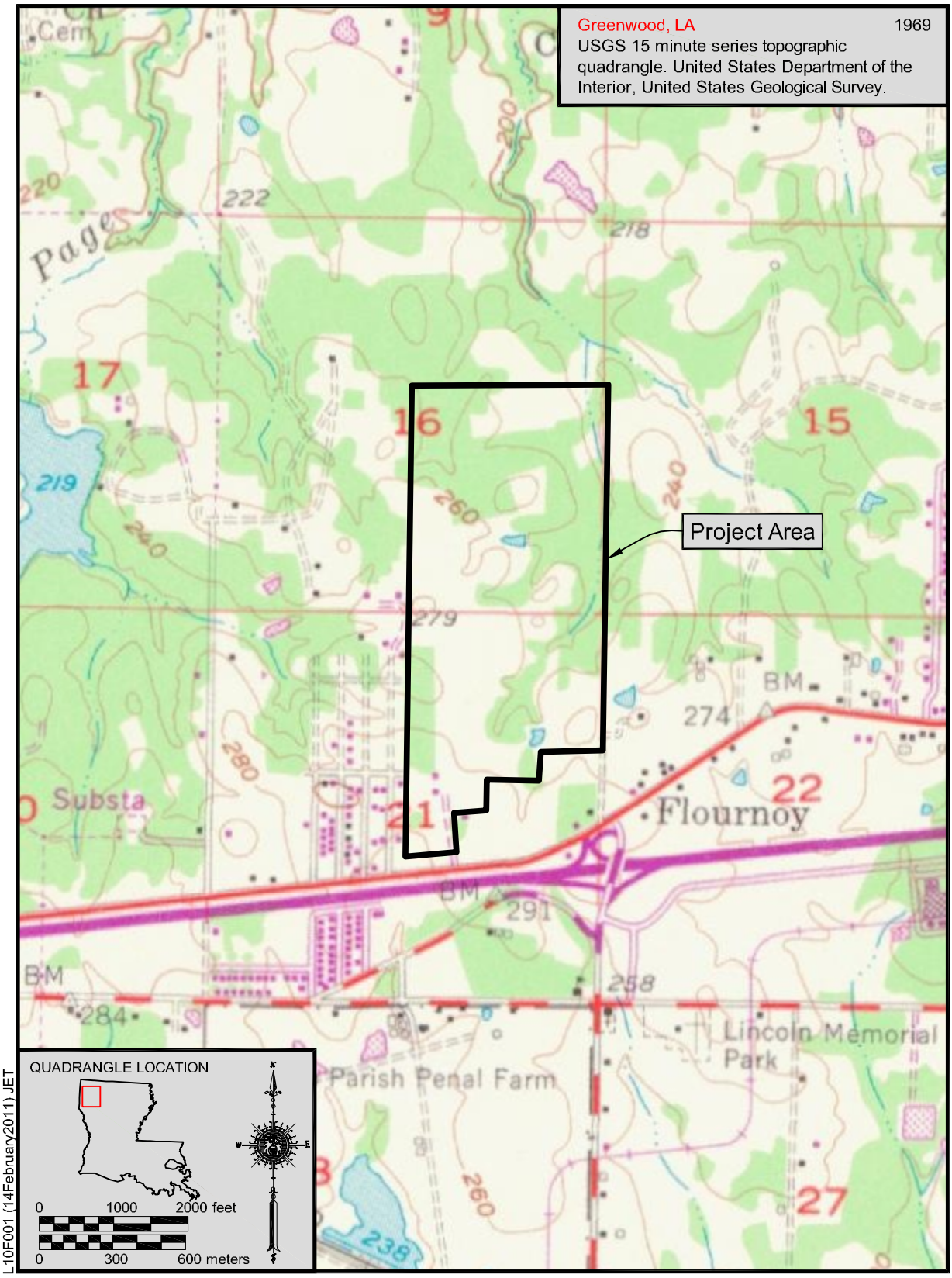


Figure 6. Project location depicted on the 1969 topographic map.

likely based on proximity to drainages and previously recorded sites in the area. In addition, because all of the reviewed maps indicated structures within the project area, historic sites were considered likely.

# Cultural Overview

## Paleoindian (13,000 B.C. to 8000 B.C.)

The Paleoindian cultural tradition in Louisiana, and throughout much of the eastern United States, has been recognized to include the Clovis culture. This was a widespread, highly mobile, New World culture typified by a specialized lithic tool kit designed primarily for hunting, butchering, and hide-working activities (Maggard and Stackelbeck 2008). The most distinctive artifacts in Paleoindian assemblages are lanceolate-shaped, often fluted, hafted bifaces. The sociopolitical organization of this time period is believed to have been small groups who were highly mobile, and who utilized large-game hunting supplemented by the acquisition and consumption of seasonally available plant resources (Anderson and Sassaman 1996:32-33).

## Archaic (8000 B.C. to 1000 B.C.)

The Archaic period was the most extensive stage of cultural development in the Southeast. It is primarily identified by a technological change from the lanceolate, fluted projectile points of the Paleoindian period to notched and stemmed triangular stone points. This change is also marked by the development and utilization of other technologies, like stone containers and ground and polished stone artifacts. The period is also recognized for the first construction of earthen mounds and earthworks, the formation of large settlements and sites, and the establishment of long-distance trade (Bense 1994). The period is typically broken down into three subperiods: the Early, Middle, and Late Archaic. These three periods are generally noted to span from the end of the Paleoindian period up to the beginning of Poverty Point. Archaic components are quite numerous throughout Louisiana, with 3,407 having been recorded in state site files by 1996 (Anderson and Sassaman 1996:172).

### *Early Archaic (8000 B.C. to 6000 B.C.)*

People of the Early Archaic resembled highly mobile Paleoindian hunter-gatherers like the Clovis and Dalton, athough their use of stemmed and notched projectile points allowed them to adapt to hunting and procuring a different group of prey (Trubowitz and Jeter 1982). This change in point type may partially be due to the invention of the atlatl. Settlement patterns during the Early Archaic consisted primarily of base camps and short-term special-purpose camps (Bense 1994). Climate during this time experienced a warming trend known as the Hypsithermal Event, which consequently affected the local environment as well as the wildlife and human cultures within that environment (McNutt 1996). Plant and animal food remains indicate that Archaic subsistence patterns had expanded from those of the Paleoindian, particularly to include more plant foods, and that southeastern Indians had begun to develop a diversified economy.

### *Middle Archaic (6000 B.C. to 4000 B.C.)*

The end of the Middle Archaic/beginning of the Late Archaic saw the Hypsithermal warming episode reach its peak. Climates became hot and dry, causing a shift in the weather pattern throughout the region. Environmental change included a change in the composition of local forests, as well as a change in the hydrology of the river valley floodplains (Bense 1994).

As populations increased during this time period, increased territoriality likely prompted stylistic diversity. Mobility of the regional populations may have reduced at this time, as a reliance on heavily curated formal tools declined in favor of a more expedient technology using lower quality, local material.

The acquisition and ultimate re-use of Early Archaic tools by Middle Archaic peoples is noted and is believed to reflect reduced mobility, less energy spent during lithic tool production, and the apparent exposure of earlier sites to Middle Archaic peoples during this time period (Anderson and Sassaman 1996:45).

Point types during the Middle Archaic generally took on the form of the basally notched variety or other stemmed forms having contracting, short and straight, or expanding stems. Points were often extensively resharpened and recycled into drills and end scrapers (Anderson and Sassaman 1996:45).

### *Late Archaic (4000 B.C. to 1000 B.C.)*

Following the climax of the Hypsithermal at the close of the Middle Archaic/beginning of the Late Archaic, temperatures cooled off and became more moist (Bense 1994:85). Vegetation and weather conditions of this time period took on modern characteristics and generally remained consistent to the present. The Late Archaic was a time of population expansion, and sites of this time period are more common than those from earlier time periods.

Systematic reoccupation of specific site localities seems to have occurred during this time period. This may have developed in response to mobility constraints imposed by regional population growth. The stockpiling of resources could also lend credence to this idea. The Late Archaic use of logistical procurement strategies is emphasized in the work of numerous researchers in the Southeast and could explain the reasoning for the regular use of task groups or part-time specialists for the preparation and manufacture of stone tools (Anderson and Sassaman 1996:46).

Point types during this period are typically of a broad-bladed, long-stemmed variety, but can also appear as narrower-bladed, short-stemmed types. In the Mississippi Valley, a smaller side-notched type was made. Points during this time period became smaller in overall size but retained the same triangular shape and stemmed base as those of the previous Archaic periods. In addition to changes in point manufacture technology, pottery was developed at this time but was not as heavily utilized as it was during the Woodland period (Bense 1994:85).

Burial practices at this time remained similar to those of the preceding period. Mound construction is believed to have been associated with funerary activities and the mounds to have served as special mortuary markers or symbols (Bense 1994:85).

## Woodland (1000 B.C. to 1000 A.D.)

The Woodland period witnessed the establishment of larger settlements within river valleys. In addition, the manufacture of pottery became widespread, burials became more elaborate, and mound construction increased. Long-distance trade became more extensive at this time, as did plant cultivation and storage. Like the Archaic, the Woodland period is broken down into three subperiods: the Early, Middle, and Late Woodland (Bense 1994:85).

### *Early Woodland (1000 B.C. to 0 A.D.)*

Climate during the first few centuries of the Woodland period was somewhat cooler than that of the Late Archaic, as two fairly dramatic though short-term cold events occurred. These cold periods were not enough, however, to prevent an increase in mound construction and ceremonialism amongst cultural groups. The adaptation of producing and utilizing pottery remains one of the key characteristics of the period. This widespread production resulted in variation of manufacture techniques, specifically temper types and general production methods (e.g., coiling, paddle and anvil, or rounding/pointing of vessel base) (Bense 1994:85).

Information pertaining to Early Woodland communities is limited, since settlement models typically depend on information provided from surface collections. It is believed that some Early Woodland cultures inhabited specific settlement locations year-round that were characterized by well-defined structures, large subterranean storage pits, and dense occupational middens. Though this may be true at some locations, Anderson and Mainfort (2002) state that sites in the Central Mississippi Valley are typically small, having a few structures and probably no more than 50–60 people. With group mobility still a potential defining characteristic of indigenous peoples at this time, social organization appears to have been based on unranked or minimally ranked lineages and clans (Anderson and Mainfort 2002:45).

The Early Woodland saw the cultivation of native plant species like goosefoot, sumpweed, sunflower, knotweed, squash/gourd, and maygrass in substantial quantity, though the level of dependence upon such crops is unknown. It is, however, acknowledged that the use of cultigens varied regionally (Anderson and Mainfort 2002:45).

## *Middle Woodland (0 A.D. to 500 A.D.)*

A stable climate during the Middle Woodland period may have allowed for less stress on subsistence systems, while promoting the spread of the Hopewellian ceremonial complex throughout most of the Southeast. This prompted an unprecedented era of mound construction for both burial and ritual activities (Bense 1994), while also facilitating sociopolitical evolution of group organization.

This time period has produced enough evidence in the form of burial mound construction, shared artifacts, and iconography to suggest that societies across eastern North America, at least to some extent, interacted widely with one another. This was particularly true with trade and religious activity (Anderson and Mainfort 2002:45). Middle Woodland populations in many parts of the Southeast also built platform mounds which were possibly connected with mortuary ritual in some areas, and to public consumption/feasting activities in other locations. Still, other platform mounds are surmounted by structures or large posts, suggesting ceremonial facilities or possible astronomical alignments. Mound centers of this time period do not appear to have supported large amounts of residents (Anderson and Mainfort 2002:45).

## *Late Woodland (500 A.D. to 1000 A.D.)*

With a mild decline in average temperature followed by a period of warmer climate thought favorable to agriculture in the East, the Late Woodland period became a time of appreciable cultural change (Anderson and Smith 2003). Households and small communities became both numerous and widely scattered. The invention of the bow and arrow may have been partially responsible for an increase in warfare, while the number of large-scale earthwork and mound building projects decreased (Anderson and Mainfort 2002:45). Subsistence patterns were generally characterized by hunting, gathering, and fishing, supplemented in some areas by gardening, including the cultivation of maize at this time. Settlements were of the traditional seasonal base camp-satellite camp organization, with greater complexity in some areas. Population increased in many areas during the Late Woodland and expanded into the uplands and along small tributaries (Bense 1994).

As the period came to an end, the Hopewellian ceremonial complex declined and the emergence of ranking or hereditary status had emerged within groups in some areas. Despite the cessation of elaborate mortuary ceremonialism, less elaborate burials continued to take place, as did mound construction (Bense 1994).

## Mississippian (1000 A.D. to 1500 A.D.)

The Mississippian period comprises the last 500 years of North American prehistory, prior to European contact. The political organization of groups into chiefdoms stands as a defining characteristic of Mississippian culture, along with the flourishing of the Southeastern Ceremonial Complex, and the expansion of platform mound centers. Mississippian subsistence patterns were of two varieties—riverine: the use of crop rotation in which plants, especially maize, were cultivated and supplemented by the collection of wild foods; and coastal: farming played a smaller role while hunting, gathering, and fishing were emphasized (Bense 1994).

Mississippian chiefdoms were either simple or complex in status. Simple chiefdoms were typically comprised of several communities under the control of a single ruler. Complex chiefdoms were made up of several simple chiefdoms that were controlled by the ruling elite of one of the chiefdoms. It is also possible that a higher status existed for another ruling individual (or group) that consisted of either several affiliated complex chiefdoms or an affiliation of both simple and complex chiefdoms (Bense 1994).

The main themes in Mississippian society were ancestor worship, war, and fertility. This complex flourished halfway through the period, as rituals and mound building were a primary means of political control. Eventually, warfare began to replace ceremonialism as the primary means of political control in many areas during this period (Bense 1994). The end of this period saw political turmoil and population relocations. Instability and violence were encountered in some areas as environmental and political problems ensued. Though this caused some endeavors, such as mound building, to wane in some areas, it continued to occur in others (Bense 1994).

## Formative (ca. A.D 800-1000) and Early Caddo (ca. A.D. 1000-1200)

Caddo settlements dating to these periods were primarily located in uplands near major streams and smaller tributaries. Permanent settlements were generally comprised of structures, middens, pits, and cemeteries. Habitation sites appear to range from basic hamlets and farmsteads to larger, more complex communities. These village types are more common during the Early Caddo, with a continuation occurring into the Middle Caddo. Distinctive artifacts have been found at larger Caddo settlements; celts, earspools, pipes, and distinctively decorated ceramics (Perttula 2004; 378-386).

### *Middle Caddo (ca. A.D. 1200-1400)*

There are a number of Caddo sites dating to this period throughout northwest Louisiana and eastern Texas. Diverse ceramics and larger habitation sites continue from the Early Caddo into the Middle, including the construction of earthen mounds appearing at the end of the Early Caddo period. Habitations have been found to include mounds, middens, and public structures. Farming has also been observed from evidence of maize and squash (Perttula 2004; 378-386).

### *Late Caddo (ca. A.D. 1400 1680)*

Late Caddo sites dating to the Belcher Phase appear throughout the northwest Louisiana region. Many Late Caddo settlements range from large permanent communities with mounds, cemeteries, hamlets, and farmsteads, to smaller farmstead habitations. These settlements were agricultural communities that were governed by high status individual(s) who typically lived at mound centers (Perttula 2004:393).

## Protohistoric (1500 A.D. to 1700 A.D.)

The Protohistoric era pertains to the initial contact period between European explorers and native peoples in the region. In Louisiana, original contact is believed to have occurred in 1542 when surviving members of De Soto's expedition tried to find a southwestern route to Mexico encountered Caddoan groups in northwestern Louisiana. This was followed by a long period without contact until Robert de LaSalle's voyage throughout the area in 1682 (Anderson and Smith 2003).

## European Settlement (1680 A.D. to 1800 A.D.)

Robert de LaSalle claimed Louisiana for the French government, naming it after his king, Louis XIV. From the late 1600s through the late 1700s, France and Spain maneuvered to determine the border between their properties in the area. In 1762, the French signed the secret Treaty of Fountinbleu transferring the area west of the Mississippi to Spain. In 1800, Spain signed the second Treaty of San Ildefonso, giving Louisiana back to France. A short time later, in 1803, France sold Louisiana to the United States for $15 million (Hofstadter et al. 1967:207 cf. Anderson and Smith 2003:406). The border between the Spanish and American claim was disputed and unclear until 1819 with the signing of the Adams-Onis Treaty. During this time, Europeans were settling in Louisiana. In northwest Louisiana through the latter part of the eighteenth century, this included largely English and colonial traders and settlers.

## History of Caddo Parish

In 1835, the Caddo signed the only land cession treaty with the United States that was signed in Louisiana. In this treaty the Caddo agreed to vacate their ancestral lands. Many moved to east Texas until they were expelled in 1859 and ultimately moved to present day Oklahoma (Kniffen et al. 1987).

Also in 1835, Shrevetown served as the headquarters for the men working with Captain Henry Miller Shreve. Shreve was commissioned by the U.S. Government to remove "The Great Raft," a centuries old log jam in the Red River that made the river unnavigable, and isolated the newly acquired Caddo territory. January 18, 1838, Caddo Parish was created from Natchitoches Parish by the Legislature of Louisiana. The Parish was named for the original inhabitants of the area. Shreveport was identified as the parish seat (Edwards et al. 1980:1).

Settlers purchased property in Northwest Louisiana from the government and established large farms and plantations throughout the region. These plantations focused primarily on growing cotton, which was the staple crop of the South. These large farms were primarily located in the alluvial plains along the Red River (Edwards et al. 1980:1).

Shreveport became the temporary capitol of the State of Louisiana following the fall of Baton Rouge to Union forces during the Civil War. The final surrender of Confederate forces occurred there on June 6, 1865. Caddo Parish found renewed prosperity from the Oil Boom of the early 1900s, which helped the area recover from the aftermath and economic depression of the Civil War. This period of prosperity lasted from around 1904 to 1914 and a second oil boom occurred in the 1930s helping the area during the depression. Also during this time the Barksdale Airfield was being constructed (Pels 2004).

In the 1950s Shreveport served as the production and distribution center of natural gas for the nation. Gas and oil production was experiencing a high as was the demand for drilling equipment. In addition, the area's lumber mills and cotton production were profitable. The 1960s saw cotton and lumber replaced by manufactured synthetics, and the oil companies began moving to other locations (Pels 2004). Following this decline, Shreveport was focused on the development of a diversified industrial economy (Edwards et al. 1980:2).

# VI. METHODS

The entire project area was subjected to an intensive pedestrian survey supplemented by shovel testing, which was conducted using parallel transects at 30 m intervals in high probability areas (within 200 m of drainages) and 50 m intervals in upland areas with heavy disturbance, minimal surface soils, and located more than 200 m from drainages. The eastern half of the project area was considered high probability based on the drainage that ran along the project border and the presence of some surface soils (20–45 cm deep). The western half, however, generally had a higher density of push piles and overall disturbance along with shallow surface soils (5–10 cm in depth). All areas adjacent to, but outside of, the project area were visually inspected to determine if any cultural resources may have been present; however, none were observed. A portion of the project area had been disturbed by access roads, logging activities, pond construction, and construction/demolition of structures.

If the ground visibility was less than 20 percent and slope was less than 15 percent, shovel test probes (STPs) were excavated on a 30 m grid in the high probability zones and a 50 m grid in heavily disturbed areas. This procedure was implemented throughout the majority of the project area. In all cases, STPs measured not less than 30 cm in diameter and extended well into the subsoil, which was often very shallow. All fill removed from the tests was screened through .64 cm (.25 in) mesh hardware cloth, and the sidewalls and bottoms were examined for cultural material and features. Sites were delineated using 10 m radial shovel tests to determine boundaries. Only on the occasion that two negative shovel tests were encountered did testing cease.

Universal Transverse Mercator (UTM) coordinates were recorded with a MobileMapper 6 global positioning system (GPS) unit manufactured by Magellan to verify locations within the project area. All UTM positions recorded by the GPS unit during the project were taken under sunny conditions, with typically three to five satellites being tracked. This unit is capable of accuracy to less than 3 m.

# V. MATERIALS RECOVERED

Historic materials were recovered during the current survey from two sites (16CD330 and 16CD331) and one isolated find. The assemblage is described below. In addition, an inventory of materials recovered from the sites discussed by provenience is presented in the site description section of this report.

## Methods

The historic assemblage includes artifacts classified and grouped according to a scheme originally developed by Stanley South (1977). South believed that his classification scheme would present patterns in historic site artifact assemblages that would provide cultural insights. Questions of historic site function, the cultural background of a site's occupants, and regional behavior patterns were topics to be addressed using this system.

South's system was widely accepted and adopted by historical archaeologists. However, some have criticized South's model on theoretical and organizational grounds (Orser 1988; Wesler 1984). One criticism is that the organization of artifacts is too simplistic. Swann (2002) observed that South's groups have the potential to be insufficiently detailed. She suggested the use of sub-groups to distinguish between, for example, candleholders used for religious purposes and those used for general lighting. Others, such as Sprague (1981), have criticized South's classification scheme for its limited usefulness on late nineteenth and early twentieth century sites, sites which include an array of material culture—such as automobile parts—not considered by South. Despite its shortcomings, most archaeologists recognize the usefulness of South's classification system to present data.

Stewart-Abernathy (1986), Orser (1988), and Wagner and McCorvie (1992) have subsequently revised this classification scheme. In this report, artifacts were grouped into the following categories: domestic, architecture, arms, furnishings, clothing, personal, communication and education, maintenance and subsistence, floral and faunal, and unidentified. The artifacts recovered during this project are summarized in Table 1.

**Table 1. Historic Artifacts Recovered According to Functional Group.**

| Site | Architecture | Domestic | Unidentified | Total |
|---|---|---|---|---|
| 16CD330 | 32 | 21 | 1 | 57 |
| 16CD331 | 2 | 4 | | 6 |
| IF-1 | 1 | | | 1 |
| Total | 35 | 25 | 1 | 64 |

Grouping artifacts into these specific categories makes it more efficient to associate artifact assemblages with historic activities or site types. One primary change associated with the refinement of these categories is reassigning artifacts associated with the "Miscellaneous and Activities" under South's (1977) original system. Considering the potential variety of historic dwellings and outbuildings within the project area, a refinement of the artifact groupings was considered important to perhaps observe whether the distribution of specific artifact groups would produce interpretable patterns related to activity areas or structure types. Each one of these groups and associated artifacts is discussed in turn.

Information on the age of artifacts as described in the artifact tables is derived from a variety of sources cited in the discussion of the materials recovered.

The beginning and ending dates cited need some clarification. Usually, an artifact has specific attributes that represent a technological change, an invention in the manufacturing process, or simple stylistic changes in decoration. These attribute changes usually have associated dates derived from historical and archaeological research. For example, bottles may have seams that indicate a specific manufacturing process patented in a certain year. The bottle then can be assigned a "beginning" date for the same year of the patent. New technology may eliminate the need for the same patent and the bottle would no longer be produced. The "ending" date will be the approximate time when the new technology took hold and the older manufacturing processes are no longer in use.

Specific styles in ceramic decorations are also known to have changed. Archaeological and archival researchers have defined time periods when specific ceramic decorations were manufactured and subsequently went out of favor (e.g., Lofstrom et al. 1982; Majewski and O'Brien 1987). South's (1977) mean ceramic dating technique uses this information. The dates presented here should not be considered absolute but are the best estimates of an artifact's age available at this time. A blank space indicates that the artifact could not be dated or, alternately, that the period of manufacture was so prolonged that the artifact was being manufactured before America was colonized. An open-ended terminal date was assigned for artifacts that may be acquired today. The rationale for presenting dates for the artifacts recovered is to allow a more precise estimate of the time span the site was occupied, rather than the mean occupation date of a site.

A summary of the artifacts recovered follows. A complete inventory of the historic artifacts can be found in Appendix B.

## Materials Recovered by Functional Group

There were 64 historic artifacts recovered during the investigation. The following provides a descriptive discussion of the types and age of artifacts recovered from throughout the survey area.

## Architecture Group (N = 35)

The architecture group is comprised of artifacts directly related to buildings, as well as those artifacts used to enhance the interior or exterior of buildings. These artifacts primarily consisted of window glass, plate glass, nails, and construction materials, such as brick and mortar. The architecture group items are discussed below (Table 2).

### *Construction Materials (n = 5)*

Construction materials refer to all elements of building construction. For this project, the building materials collected consisted entirely of brick. Bricks (n = 5) were separated into machine-made (n = 4), and indeterminate brick fragments (n = 1).

Hand-made or early machine-made bricks often have a glaze, resulting from the sand in the clay turning to glass in the kiln. The paste is usually more porous, and the shape of the early bricks is more irregular. None of the bricks recovered appeared to be hand-made or early machine-made bricks. The later machine-made bricks have a harder, more consistent paste and are uniform in shape. Machine-made bricks will often have marks in the clay related to the machine manufacturing process (Greene 1992; Gurcke 1987). The recovered bricks likely all fell into this category, but some pieces were too fragmentary to identify confidently. The brick fragments recovered were not assigned specific dates.

### *Fittings and Hardware (n = 1)*

This class of artifacts includes fittings for structures, such as plumbing pipes and other architectural hardware. One common hinge was recovered that falls into this category. This hinge was a common machine-made hinge that was heavily rusted. These have a broad period of use and are still in use today.

### *Flat Glass (n = 4)*

Cylinder glass was developed in the late eighteenth century to enable the inexpensive production of window glass. With this method, glass was blown into a cylinder and then cut flat (Roenke 1978:7). This method of producing window glass replaced that of crown glass production, which dates back to the Medieval period and was capable of fabricating only very small, usually diamond-shaped, panes (Roenke 1978:5). Cylinder glass was the primary method of window glass production from the late eighteenth century through the early twentieth century, at which time cylinder glass windows were slowly replaced by plate glass windows. Plate glass window production became mechanized after 1900 but did not become a commercial success in the United States until approximately 1917 (Roenke 1978:11).

Cylinder window glass has been shown to gradually increase in thickness through time and can be a useful tool for dating historic sites. Several dating schemes and formulas have been devised that use average glass thickness to calculate building construction or modification dates. These include Ball (1984), Roenke (1978), and Chance and Chance (1976) to name a few. Like previously derived formulas, Moir (1987) developed a window glass dating formula to estimate the initial construction dates for structures built primarily during the nineteenth century. Although Moir (1987:80) warns that analysis on structures built prior to 1810, or later than 1915, have shown poor results, most research in this area shows the regression line extending back beyond 1810 (Moir 1977 Roenke 1978). Hence, dates calculated back to 1785 were considered plausible. Sample size is also a consideration when using the Moir window glass regression formula. According to Moir (1987:78), sample sizes also need to be “reasonable and not collected from a point or two” in order to accurately date the construction of a building. For the purposes of this investigation, a “reasonable” sample size is considered 25 window glass sherds.

**Table 2. Summary of Architectural Artifacts Recovered from the Project Area.**

| Site | Machine-made brick | Unidentified brick | Hinge | Window glass | Cut nail | Wire nail | Unidentified nail | Total |
|---|---|---|---|---|---|---|---|---|
| 16CD330 | 4 | | | 4 | 4 | 2 | 13 | 27 |
| 16CD331 | | | 1 | | | 1 | | 2 |
| IF-1 | | 1 | | | | | | 1 |
| Total | 4 | 1 | 1 | 4 | 4 | 3 | 13 | 30 |

Each fragment of flat glass was measured for thickness and recorded to the nearest hundredth of a millimeter using digital calipers. The differences between cylinder window glass, mirror glass, and plate glass were in part determined by the thickness and wear of each flat glass fragment. Although Moir (1987:80) states that dating window glass after 1915 is not as reliable for dating sites, for our purposes, window glass that measured 2.41 mm (dating to 1916) was included in the calculations because according to Roenke (1978:11), plate glass does not become widely or successfully produced in the United States until 1917. There was a total of four flat glass sherds recovered during the current survey. Moir's window glass technique, which relies on statistically meaningful samples from discreet contexts for accuracy, was not applicable based on the small sample.

### *Nails (n = 30)*

There are three stages recognized in the technological chronology of nails: wrought nails, cut nails, and wire-drawn nails.

Wrought nails were handmade and were the primary type of construction fastener in the eighteenth and early-nineteenth centuries. Their use ended around 1810 with the widespread use of square cut or machine cut nails (Nelson 1968:8).

The cut nail, introduced in approximately 1800, originally had a machine-cut body with a hand-made head. Around 1815, crude machine-made heads replaced hand-made heads on cut nails, and overall, cut nails replaced wrought nails in the construction industry. Early fully machine-cut nails exhibit a "rounded shank under the head," and therefore, often appear pinched below the head of the nail (Nelson 1968:8). By the late 1830s, these "early" fully machine-cut nails were replaced with "late" fully, or modern, machine-cut nails.

The first wire-drawn nails were introduced into the United States from Europe by the mid-nineteenth century. These early wire nails were primarily used for box construction and were not well adapted for the building industry until the 1870s. Although the cut nail can still be purchased today, the wire nail nearly universally replaced it by the turn of the twentieth century (Nelson 1968:8).

A total of 24 nails were recovered from the project area. Of the nails recovered, 8 were cut nails that could not be further identified, and 3 were wire-drawn nails. There were also 13 nails that could not be identified as to type. Cut nails included 4 pulled 8d nails. Three of the wire nails could be identified as to size and condition. They consisted of three pulled nails; a 40d, a 7d, and a 6d. The unidentifiable nails were all fragments.

## Domestic Group (N = 25)

Artifacts included in the domestic group consisted of ceramics (n = 5), container glass (n = 18), and container closures (n = 2) (Table 3).

**Table 3. Summary of Domestic Artifacts Recovered from the Project Area.**

| Site | Ceramics | Undiagnostic glass | Container Closures | Total |
|---|---|---|---|---|
| 16CD330 | 5 | 14 | 2 | 21 |
| 16CD331 | | 4 | | 4 |
| IF-1 | | | | |
| Total | 5 | 18 | 2 | 25 |

The ceramic inventory consisted of refined and utilitarian wares dating from the nineteenth century through the twentieth century. A full description of ceramic types recovered from the project area is listed below, followed by descriptions of other domestic group artifacts.

## *Ceramics (n = 5)*

The ceramics recovered were grouped into six major ware types: whiteware (n = 2), ironstone (n = 1), and stoneware (n = 2). Ceramics within each of these ware groups were separated into decorative types that have temporal significance. Each of these ware groups is reviewed below, followed by discussions of associated decorative types.

### Whiteware (n = 2)

As a ware type, whiteware includes all refined earthenware that possesses a relatively non-vitreous, white to grayish-white clay body. Undecorated areas on dishes exhibit a white finish under clear glaze. This glaze is usually a variant combination of feldspar, borax, sand, nitre, soda, and china clay (Wetherbee 1980:32). Small amounts of cobalt were added to some glazes, particularly during the period of transition from pearlware to whiteware and during early ironstone manufacture. Some areas of thick glaze on whiteware may, therefore, exhibit bluish or greenish-blue tinting. Weathered paste surfaces are often buff or off-white and vary considerably in color from freshly exposed paste (Majewski and O'Brien 1987).

Most whiteware produced before 1840 had some type of colored decoration. These decorations are often used to designate ware groups (i.e., edgeware, polychrome, and colored transfer print). Most of the decorative types are not, however, confined to whiteware. Therefore, decoration alone is not a particularly accurate temporal indicator or actual ware group designator (Price 1981).

The most frequently used name for undecorated whiteware is the generic "ironstone," which derives from "Ironstone China" patented by Charles Mason in 1813 (Mankowitz and Haggar 1957). For purposes of clarification, ironstone will not be used when referring to whiteware. Ironstone is theoretically harder and denser than whiteware produced prior to circa 1840. Manufacturer variability is, however, considerable and precludes using paste as a definite ironstone identifier or as a temporal indicator. Consequently, without independent temporal control, whiteware that is not ironstone is difficult to identify, as is early vs. later ironstone. For this analysis, the primary determining factor in classification of a sherd as whiteware was the hardness and porosity of the ceramic paste. Decorative types observed on the whiteware sherds in our assemblage are summarized and defined in the following discussions.

#### *Plain (n = 2)*

This decorative type includes vessels with no decoration. While some researchers such as Lofstrom et al. (1982:10) and Wetherbee (1980) include molded designs with "plain" whiteware, we agree with Majewski and O'Brien (1987:153) that molded vessels should be grouped on their own. Plain whiteware vessels became very popular following the Civil War and continued in popularity throughout the late nineteenth and early twentieth centuries (Faulkner 2000). Bacteriological research emerged after the Civil War, and it was not long before it became widely known that there is a link between bacteria and disease (Duffy 1978:395). It was commonly thought that plain, undecorated wares were best suited for

maintaining and serving clean, bacteria-free food. Hence, bacteriological research helped spur the rise in popularity of undecorated vessels, which resulted in increasing competition between whiteware and ironstone manufacturers.

Purity crusades also indirectly helped increase the popularity of plain, white vessels in the late nineteenth and early twentieth centuries as social reformers focused on cleaning up city streets, improving sanitation, and ridding cities of disease epidemics. Part of this crusade was the public promotion of purity at the dinner table. Unfortunately, many of these white public health reformers were also motivated by Social Darwinist ideas, and sanitation problems and disease epidemics were often blamed on African Americans and East-European immigrants who were stereotyped as being the harbingers of disease and social decay (Friedman 1970:123).

Two undecorated, or plain, whiteware sherds were recovered during the current survey. These sherds were dated from 1830 to the present (Majewski and O'Brien 1987:119). While plain sherds may have come from plain vessels, it should be noted that many of these sherds may be undecorated parts of decorated vessels.

### Ironstone (n = 1)

Ironstone is a white or gray-bodied, refined stoneware with a clear glaze. It is often indistinguishable from whiteware. Ironstone differs from whiteware in that the body is more vitreous and dense. In addition, a bluish tinge or a pale blue-gray cast often covers the body. In some cases, a fine crackle can be seen in the glaze; however, this condition is not as common as it is in whiteware (Denker and Denker 1982:138).

Confusion in the classification of white-bodied wares is further compounded by the use of the term as a ware type or trade name in advertising of the nineteenth century. Both ironstones and whitewares were marketed with names such as "Patent Stone China," "Pearl Stone China," "White English Stone," Royal Ironstone," "Imperial Ironstone," "Genuine Ironstone," "White Granite," and "Granite Ware" (Cameron 1986:170; Gates and Ormerod 1982:8). These names do not imply that true ironstone was being manufactured. Some investigators avoid the distinctions entirely by including ironstones as a variety of whiteware. Others, such as Wetherbee (1980), refer to all nineteenth-century white-bodied earthenwares as ironstone. For this analysis, the primary determining factor in classification of a sherd as ironstone was the hardness and porosity of the ceramic paste. Sherds with a hard vitreous paste were classified as ironstone.

Charles James Mason is usually credited with the introduction of ironstone (referred to as Mason's Ironstone China) in 1813 (Dodd 1964:176). Others, including the Turners and Josiah Spode, produced similar wares as early as 1800 (Godden 1964). As a competitive response to the highly popular oriental porcelain, British potters initiated this early phase of ironstone production. The ironstone of this early phase bears a faint blue-gray tint and oriental motifs, much like Chinese porcelain. A second phase of ironstone began after 1850 in response to the popularity of hard paste porcelains produced in France. This variety of ironstone had a harder paste and reflected the gray-white color of French porcelains.

While some ironstones continued to use oriental design motifs after 1850, the general trend was toward undecorated or molded ironstones (Collard 1967:125–130; Lofstrom et al. 1982:10). Ironstone continued to be produced in England, and, after 1870, it was also manufactured by numerous American companies. For many years, classic ironstone—the heavy, often undecorated ware—had been frequently advertised as being affordable and suitable for "country trade" (Majewski and O'Brien 1987:121). By the late 1800s, these thick, heavy ironstones began losing popularity and were often equated with lower socioeconomic status (Collard 1967:13). At the same time, ironstone manufacturers began shifting to thinner, lighter weight ironstones. As a result, this type of ironstone became popular tableware in American homes

during most of the twentieth century (Majewski and O'Brien 1987:124–125). In spite of the shift toward thinner and lighter ironstones, heavy ironstone remained on the market and continues to be popular in hotel/restaurant service (hence, this heavy, twentieth-century ironstone is sometimes called "hotelware"). However, its production for home use all but ceased by the second decade of the twentieth century (Lehner 1980:11).

### Decal (n = 1)

Decal decoration was rare before 1900 on ceramics other than imported porcelains (Majewski and O'Brien 1987:147). The process of decalcomania consists of applying decals—designs printed on a film or paper—to ceramic vessels. This decorative technique is often confused with transfer printing; however, decals can be distinguished from transfer prints by the sharpness of the design, the presence of shading, the use of bright colors, and the slight relief often felt when touching the edge of a decal design (Majewski and O'Brien 1987:146). Decals are applied to vessels prior to the final firing and are usually put through the decorating kiln in order to harden the decal for permanency. The decals include stipple and line-engraved motifs created using a lithographic process in an assortment of colors (Majewski and O'Brien 1984:36).

In contrast to the polychrome sprig and broadline floral style popular in the mid-nineteenth century, floral decals are characterized by their use as a border or vessel accent. Frequently, these appeared as small sprays of flowers applied off-center and often were applied in conjunction with thin-line border stripes, raised-border motifs, hand painting, and gilding (Majewski and O'Brien 1984:36). Occasionally, decals were lightly touched up by hand in order to give a hand-painted appearance. Majewski and O'Brien (1987) suggest that this motif began in the late 1800s as an inexpensive alternative to multi-colored hand-painted techniques. Decals remained a popular method of decoration until the introduction of new decorating methods, including chromatic glazes and silk screening in the mid-twentieth century (Blaszczyk 2000:155). Decal decorations can occur on whiteware, ironstone, and porcelain.

The sherd categorized as ironstone in the current study was of the thinner, light weight ware. This ironstone sherd had a multi-colored decal. These sherds date between 1880 and 1940 (Blaszczyk 2000:155; Majewski and O'Brien 1987:147; Wegars and Carley 1982).

### Stoneware (n = 2)

Stoneware served as the "daily use" pottery of America, particularly rural America, after its introduction during the last decade of the eighteenth century. By 1850, this ware generally replaced coarse redware as the primary utilitarian ware used in American households. Stoneware is a semi-vitreous ware manufactured of a naturally fine, but dense, clay. The pottery was fired longer and to a higher temperature than earthenwares; a kiln temperature of at least 1,200 to 1,250 degrees Celsius had to be obtained (Cameron 1986:319; Dodd 1964:274–275). As a result, stoneware generally exhibits a hard body and a very homogeneous texture. The paste may vary from gray to brown, depending on the clay source, and length and intensity of the firing.

Because this ware is fired at such high temperatures, its body is nonporous and well suited to liquid storage. Stoneware, as mentioned, was not typically manufactured as a refined ware (such as its cousin, ironstone, or eighteenth-century refined white salt-glazed stoneware), and hence, it was, for the most part, utilized for utilitarian activities associated with jars, churns, crocks, tubs, jugs, mugs, pans, and pots. These vessels were typically glazed, with salt glazing and slip glazing most common.

Although refined salt glazing was practiced in England during the eighteenth century, by 1780, the production of English salt-glazed tableware had been virtually supplanted by the manufacture of cream colored earthenwares (Lewis 1950:29). The salt-glazing technique continued to be utilized

for utilitarian vessels, however, and was eventually introduced to the United States in the early-nineteenth century. Salt glazing was accomplished by introducing sodium chloride into the kiln during the firing process, at which point the salt quickly volatilized. The vapor reacted with the clay to form a sodium aluminum silicate glaze (see Billington 1962:210; Dodd 1964:239). The surface of the glaze is typically pitted, having what is commonly known as an "orange peel" effect.

Stoneware may also be coated with a colored slip (a suspension of fine clay and pigment). The Albany slip—named after the rich brown clay found near Albany, New York—first appeared in the 1820s. Initially, it was mainly used for the interior of stoneware vessels. However, by the 1850s, it was also used as an exterior glaze. Bristol glaze, an opaque white slip, was introduced late in the nineteenth century. When used in combination with Albany slip, Bristol-glazed stoneware vessels have a general date range of 1880–1925 (Ketchum 1983:19; Raycraft and Raycraft 1990:5).

A third glaze often used on stoneware is the alkaline glaze. Like the Albany slip, it was developed in the 1820s. The basic alkaline glaze is made up of wood ash, clay, and sand. Other additions may be slaked lime, ground glass, iron foundry cinders, or salt. These additions affected the color and texture of the glaze. Colors vary from olive to brown to a gray-green or yellowish hue, depending on adjustments in proportion of ingredients (Ketchum 1991:9). Although not as prevalent, alkaline glazing has been used in combination with salt glazing. This causes the stoneware vessel to exhibit the colors of alkaline glazing with the pitted texture of a salt glaze.

The stoneware sherds recovered were slipped with matching interior and exteriors; one Albany and one Bristol. As discussed above, the recovered stoneware dates from around 1850s through the early to mid-twentieth century.

## *Container Glass (n = 18)*

A variety of undiagnostic container glass was recovered during the current investigations. Glass color was the only attribute that could be used for dating those fragments that were not identifiable as to type of manufacture. These were all small fragments and as a result had few diagnostic attributes.

### Undiagnostic Container Glass (n = 18)

When no other diagnostic features were present, the color of the glass was noted, although there is some subjectivity inherent in color classification. Jones and Sullivan (1985) observed that chemicals color glass, either as natural inclusions or additions by the manufacturer. The concern here was primarily to note the presence of purple or "amethyst" glass, selenium glass, cobalt glass, and "milk" glass.

Opaque white, or "milk," glass has been manufactured as long as glass has been made, but milk glass became common in the late-nineteenth and twentieth centuries as it became frequently used in "containers, tablewares, and lighting devices" (Jones and Sullivan 1985:14). Cobalt glass began to be used in container glass manufacturing in approximately 1840 (Fike 1987:13; Lindsey 2008). Clear glass, as previously mentioned, came into popular demand beginning in the 1860s with the growing public desire to see the contents of the bottles with the burgeoning public health movements following the Civil War (Baugher-Perlin 1982:261; Wiebe 1967).

Five colors were represented including clear glass (n = 10), amber glass (n = 6), aqua glass (n = 2), cobalt glass (n = 1) and opaque white glass (n = 1). These fragments are suggestive of late nineteenth through twentieth century occupation.

## *Closures (n = 2)*

Seal closures utilized the vacuum on the interior of the glass container. The heating and then cooling of the bottle's contents created the vacuum. Seal closures, although dating back to 1810, did not become popular until the

mid-twentieth century. These closures were most often used in food jars (Berge 1980). There were several types of seal closures including Phoenix, Sure Seal, Giles, spring seal, and disc seal.

The disc seal was used as early as 1810 by Nicholas Appert (Berge 1980). John L. Mason used this type of closure on his patented fruit jar in 1858 (Berge 1980). Mason's closure was made of zinc and was held in place with an exterior screw cap ring. Unfortunately, the zinc reacted with the contents of the jars, giving the contents an unpleasant metal taste (Jones and Sullivan 1985). Glass liners were then developed and added to the disc around 1869 by Lewis R. Boyd (Toulouse 1969a, 1977). These liners prevented the zinc from reacting with the contents of the jar. To aid in opening, Boyd added a handle to the disc circa 1900 (Toulouse 1977). Both of these disc seal types were used until around 1950 (Jones and Sullivan 1985; Toulouse 1969a, 1977). In 1865, the Kerr two piece seal was patented. This system utilized a metal seal disc held in place by an exterior screw cap with no center. This seal and cap type system is still in use today.

The closure artifacts recovered from the project area were milk glass canning jar lid liners that were manufactured between 1869 and 1950.

## Unidentified (N = 1)

This category contains artifacts that could not be identified beyond the material from which the artifact was made. This artifact was made of metal and was heavily rusted. It was not possible to identify the object.

# Discussion

There were 57 historic artifacts recovered during the investigation from two sites and isolated find. The material collected is discussed in detail above, and summarized below in the site discussion. A complete inventory can be found in Appendix B.

## 16CD330

Historic cultural materials were recovered from the surface and from within the plow zone of two shovel tests excavated at Site 16CD330. A description and discussion of these items is included here. A total of 50 artifacts, primarily from the architecture and domestic groups were recovered. The architecture group (n = 28) included four machine-made brick fragments, four window glass pieces, four cut nails, two wire nails, one wrought nail, and 13 indeterminate nail fragments. While not specifically datable, the machine-made brick fragment is considered to have been manufactured locally after the 1880s. The window glass pieces were a very small sample and not considered reliable for site-dating purposes. The cut nails were manufactured between circa 1800 and circa 1880, while wire nails were used for construction after 1880. The domestic group (n = 21) was represented by ceramics, container glass, and container closures. The ceramics (n = 5) included two plain whiteware sherds (post-1830), a decal decorated ironstone sherd (1880–1940), and two stoneware sherds dating after the 1880s into the twentieth century. Container glass included undiagnostic fragments. Colors consisted of clear (n = 9), amber (n = 2), aqua (n = 2), and opaque white glass (n = 3). These colors are suggestive of nineteenth through twentieth century. The only container closure artifact recovered from this site was a piece of a milk glass lid liner for a canning jar dating between 1869 and 1950. Other material classes of historic artifacts consisted of one unidentifiable metal fragment.

These artifacts represent a historic occupation that likely dates during the very late nineteenth century into the twentieth century. This site appears to correspond with a mapped structure that appears on the 1945 Greenwood, Louisiana, USGS topographic map. The artifacts indicate that a variety of domestic-related activities were being conducted, such as food storage, preparation, and consumption. While very limited in number, the architectural artifacts indicate that

the house may have been constructed prior to circa 1880, with occupation through the mid twentieth century.

## 16CD331

Historic cultural materials were recovered from two shovel tests excavated at Site 16CD331. This site location corresponds well with a mapped structure that appears on the 1945 Greenwood, Louisiana, USGS topographic map of the area. Although a structure likely stood at the location there is very little evidence remaining. Six artifacts were recovered, all of which were from the architecture and domestic groups. The architectural artifacts consisted of a wire nail and a hinge. The wire nails postdate the 1870s and are still in use today. The hinge type is also still in use. There were four domestic group artifacts, all of which are undiagnostic container glass. Colors represented consisted of amber (n = 2), clear (n = 1), and cobalt (n = 1). These colors suggest a late nineteenth through twentieth century occupation.

## IF-1

A single brick fragment was recovered from the isolated find. This location also corresponded with a mapped structure indicated on the 1945 Greenwood, Louisiana, USGS topographic map. There is very little indication that a structure stood at the location, this single artifact is all that remains.

# VI. RESULTS

This survey consisted of a combination of intensive pedestrian survey and shovel testing. The majority of the project area (approximately 126.67 ha [313 acres]) consisted of a broad upland in mixed hardwoods and pine forest. Intensive pedestrian survey supplemented with screened shovel testing was conducted throughout the entire project area. This work resulted in the location of two sites (16CD330 and 16CD331) and one isolated find.

The following consists of descriptions for 16CD330, 16CD331, and IF-1, including information concerning the archaeological investigations at each location, and the NRHP recommendations for all resources.

# Site 16CD330

**UTM Coordinates**: Z15, N3591399, E0414684 (NAD 83)
**Elevation**: 85.34 m (280 ft) AMSL
**Components**: Historic
**Specific Components**: Late nineteenth through twentieth century
**Site Type**: Homestead
**Size**: 200 sq m (2,152.78 sq ft)
**Distance/direction to nearest water**: 458 m (1,502.63 ft) southwest of site to unnamed tributary of Page Bayou, but site may have had a well during occupation (no evidence remains).
**Type and extent of previous disturbance**: Logging/erosion and deflation, 100 percent disturbed
**Topography**: Broad uplands
**Vegetation**: Mixed hardwoods and pines with secondary growth
**Ground surface visibility**: Less than 10 percent
**Slope Direction (Aspect)**: level
**Recommended NRHP status**: Not eligible

## Site Description

Site 16CD330 consisted of a heavily disturbed, late nineteenth through twentieth century homestead site with no intact deposits. This site is located in the vicinity of a mapped structure depicted on the 1945 Greenwood, Louisiana USGS topographic map. No structural elements or indications of a structure or related features were evident at the location.

The site was identified as a result of shovel testing. Site dimensions, established by positive shovel test positions, were 20 m (65.62 ft) north to south and 10 m (32.81 ft) east to west.

Vegetation at the time of investigation consisted of mixed hardwoods and pines with dense secondary growth. Ground surface visibility was limited (less than 10 percent) due to leaf litter, pine straw, and secondary growth in the area (Figure 7).

**Figure 7. Overview of Site 16CD330, facing northeast.**

## Investigation Methods

The site was initially located as a result of shovel testing. The site boundaries were delineated using a 10 m (32.8 ft) grid. Nineteen screened shovel tests were excavated to delineate the boundaries of the site with two yielding cultural material. The recovered material is discussed below in the Artifacts section.

Data pertaining to the site location was recorded, and the site was indicated on appropriate maps. A site datum was established and its UTM coordinates were recorded using a handheld GPS unit. A site sketch map was drawn showing the placement of the shovel test positions in relation to physiographic features (Figure 8).

## Depositional Context

Profiles observed at Site 16CD330 were typical of the soil series mapped for the area (Woodtell fine sandy loam). Shovel tests generally revealed brown (10YR 5/3) sandy loam to as deep as 25 cm (9.8 inches) underlain by a brown (7.5YR 5/3) sandy clay loam (Figure 9). Woodtell fine sandy loam (1–3 percent slope) soils typically have very dark brown to yellowish brown (10YR 2/2 10YR 5/2; 10YR 4/3 10YR 6/4; 10YR 4/4 10YR 5/4) fine sandy loam from 0–22 cm (0–9 in) overlaying a red clay subsoil mottled with brown and gray inclusions. In many areas of the current project area the clay subsoil is contacted 5 10 cm (1.07 3.94 in) below the surface suggesting disturbance and/or erosion.

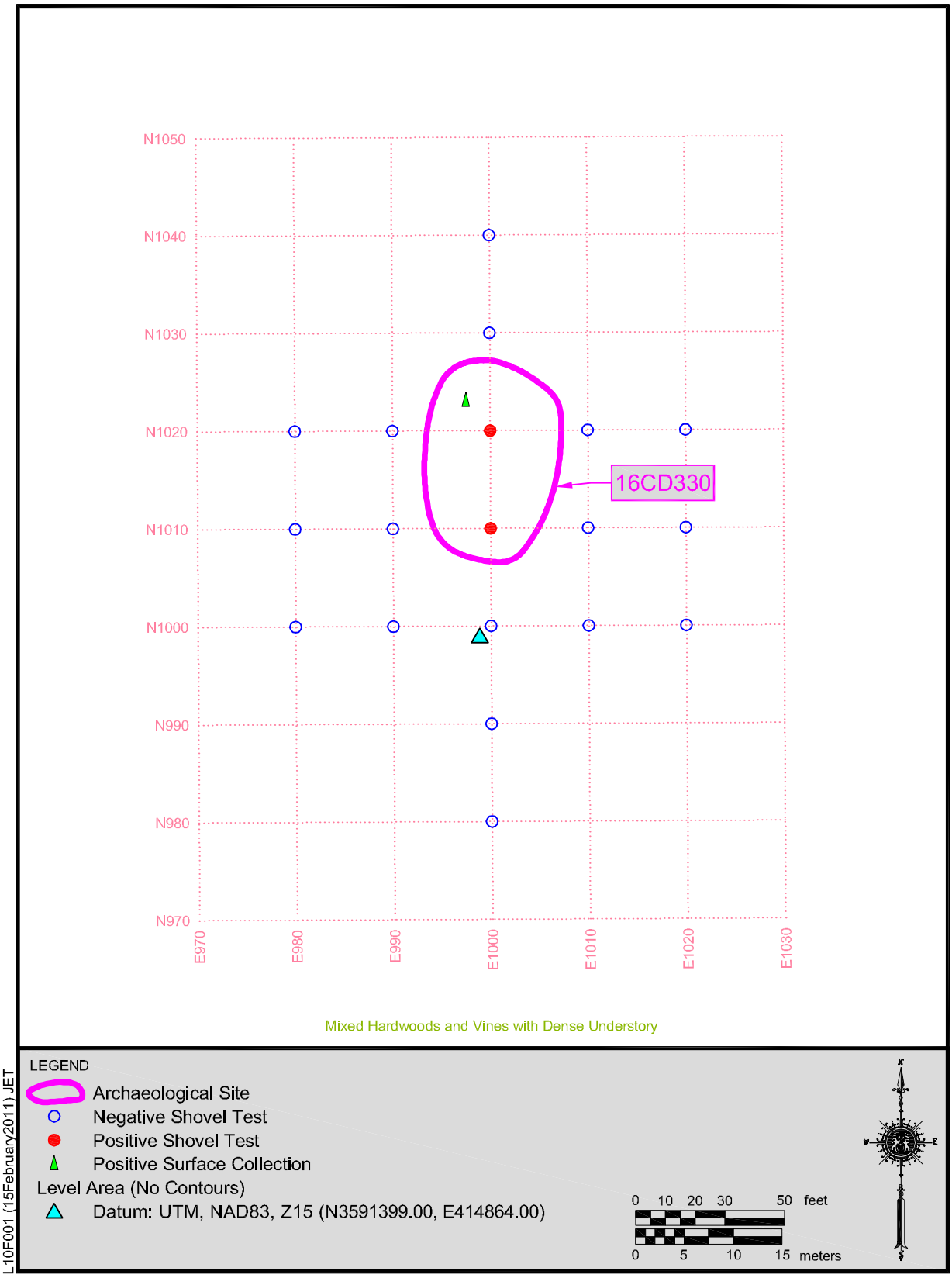


Figure 8. Schematic plan map of Site 16CD330.

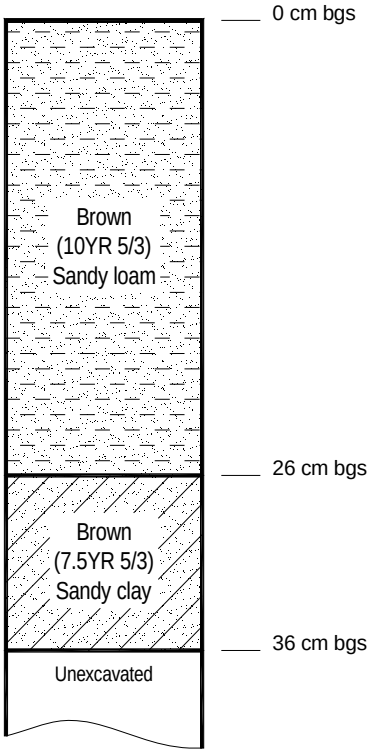


**Figure 9. Representative profile from 16CD330 (N1030E1000).**

## Artifacts

The Site 16CD330 assemblage consisted of 50 artifacts. These artifacts were primarily from the architecture and domestic groups. The architecture group (n = 28) included four machine-made brick fragments, four window glass pieces, four cut nails, two wire nails, one wrought nail, and 13 indeterminate nail fragments. The domestic group (n = 21) was represented by ceramics, container glass, and container closures. The ceramics (n = 5) included two plain whiteware sherds (post-1830), a decal decorated ironstone sherd (1880–1940), and two stoneware sherds. Container glass included undiagnostic fragments. Colors consisted of clear (n = 9), amber (n = 2), aqua (n = 2), and opaque white glass (n = 3). The only container closure artifact recovered from this site was a piece of a milk glass lid liner for a canning jar. Other material classes of historic artifacts consisted of one unidentifiable metal fragment.

## Features

No features were observed during the investigation of the site.

## Summary and National Register Evaluation

Site 16CD330 consisted of a heavily disturbed, low density, mid-nineteenth through twentieth century artifact scatter with no intact subsurface deposits. Due to disturbance and the lack of features, the archaeological aspect of Site 16CD330 has no integrity and, as a result, has a limited archaeological research potential. This site is not considered to have the potential to provide important information about local or regional history and is recommended not eligible for the NRHP (Criterion D). No further work is recommended. It is unlikely that further investigation of Site 16CD330 would produce information beyond that recorded during the current survey.

# Site 16CD331

**UTM Coordinates**: Z15, N3591060, E0415379 (NAD 83)
**Elevation**: 82.30 m (270 ft) AMSL
**Components**: Historic
**Specific Components**: Late nineteenth through twentieth century
**Site Type**: Homestead
**Size**: 200 sq m (2,152.78 sq ft)
**Distance/direction to nearest water**: 129 m east of site to unnamed tributary of Page Bayou (now a pond at the location), but there is a well on site.
**Type and extent of previous disturbance**: Logging/erosion, 100 percent disturbed
**Topography**: Broad upland
**Vegetation**: Mixed hardwoods and pines with dense secondary growth
**Ground surface visibility**: Less than 10 percent
**Slope Direction (Aspect)**: Level
**Recommended NRHP status**: Not eligible

## Site Description

Site 16CD331 consists of a heavily disturbed, late nineteenth through twentieth century historic homestead site with no intact deposits beyond a brick lined-well. This site is located in the vicinity of a mapped structure indicated on the 1945 Greenwood, Louisiana USGS topographic map (Figures 2 and 3) and may be the remains of this mapped structure. Investigation of the location yielded a low density of historic material from disturbed contexts.

The site was identified as a result of the brick-lined well during intensive pedestrian survey and shovel testing in the area. Site dimensions, established by positive shovel test positions, were 20 m (65.62 ft) north to south and 10 m (32.81 ft) east to west.

Vegetation at the time of investigation consisted of mixed hardwoods and pines with dense secondary growth. Ground surface visibility was limited (less than 10 percent) due to leaf litter, pine straw, and secondary growth in the area (Figure 10).

## Investigation Methods

The site was initially located based on the surface feature present at the site. The site boundaries were delineated using a 10 m (32.8 ft) grid with the brick-lined well established as the site datum. Twenty-one screened shovel tests were excavated to delineate the boundaries of the site with two yielding cultural material. The recovered material is discussed below in the Artifacts section.

Data pertaining to the site and shovel test locations were recorded, and the site was indicated on appropriate maps. A location for the site datum was recorded using a handheld GPS unit. A site sketch map was drawn showing the placement of the shovel test positions in relation to physiographic features (Figure 11).

**Figure 10. Overview of Site 16CD331, facing west.**

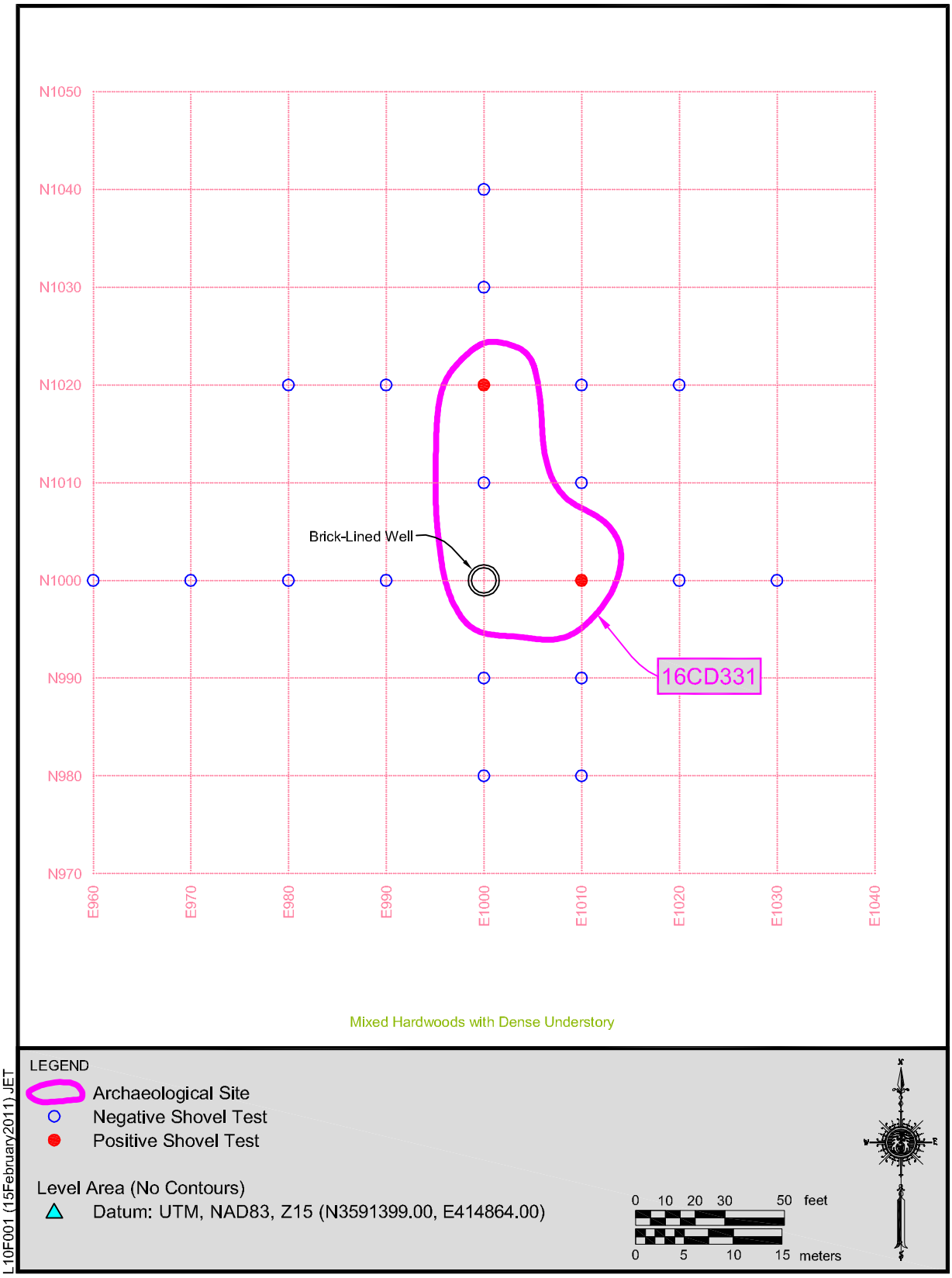


Figure 11. Schematic plan map of Site 16CD331.

## Depositional Context

Profiles observed at Site 16CD330 were typical of the soil series mapped for the area (Keithville very sandy loam). Shovel tests generally revealed brown (10YR 5/3) sandy loam to as deep as 26 cm (3.94 in) underlain by a brown (5YR 4/4) sandy clay (Figure 12). This soil series typically has a brown to yellowish-brown very fine sandy loam from 0–22 cm (0 9 in) overlaying a yellowish red to strong brown loam from 22–90 cm (9–35 in).

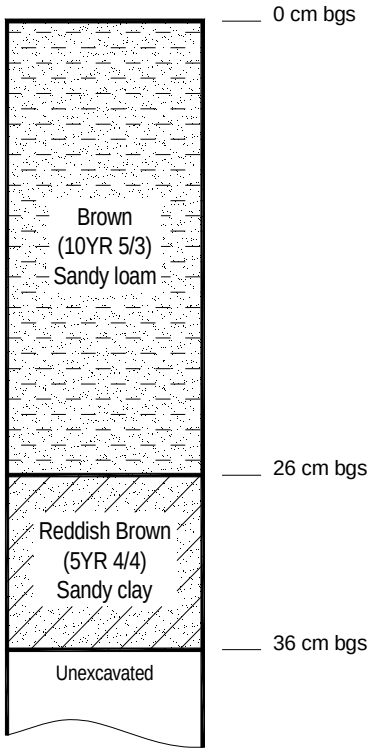


**Figure 12. Representative profile from 16CD331 (N1010E1000).**

## Artifacts

Six artifacts were recovered from this site, all of which were from the architecture and domestic groups. The architectural artifacts consisted of a wire nail and a hinge. There were four domestic group artifacts, all of which are undiagnostic container glass. Colors represented consisted of amber (n = 2), clear (n = 1), and cobalt (n = 1). These artifacts support a late nineteenth through twentieth century occupation.

## Features

One feature was identified at this site, a brick-lined well. This feature was observed during the investigation of the site. The well was open and did not appear to contain significant archaeological deposits.

## Summary and National Register Evaluation

Site 16CD331 consisted of a disturbed, low density, late nineteenth through twentieth century historic artifact scatter with no intact deposits beyond a brick-lined well. Despite the presence of the well, the archaeological aspect of Site 16CD331 has limited to no integrity and, as a result, has a limited archaeological research potential. This site is not considered to have the potential to provide important information about local or regional history and is recommended not eligible for the NRHP (Criterion D). No further work is recommended. It is unlikely that further investigation of Site 16CD331 would produce information beyond that recorded during the current survey.

# Isolated Find 1

One brick fragment was recovered from the northern portion of the project area. This architectural artifact was recovered from the vicinity of a mapped structure indicated on the 1945 Greenwood, Louisiana USGS topographic map of the area. This suggests IF-1 may be associated with a structure that was located in the project area dating prior to 1945. This artifact was recovered from the disturbed Ap 0–12 cm below ground surface. Due to the paucity of materials, little interpretation can be made concerning the isolated find recovered from this location.

# VII. CONCLUSIONS AND RECOMMENDATIONS

Cultural Resource Analysts, Inc., personnel completed a records review and cultural resource survey for a proposed LED Certified Site in Caddo Parish, Louisiana. The archaeological file search was conducted by Justin Morrison on December 17, 2010. This records review included referencing cultural resource data maintained by the LA SHPO to identify any cultural resources or cultural resource investigations documented in the area. This work indicated that no surveys or sites were documented in the current project area.

Field investigation consisted of an intensive pedestrian survey supplemented with screened shovel tests executed at 30 m intervals in areas with surface soils and 50 m intervals in areas with severe disturbance and limited surface soils. Fieldwork for this project was conducted from December 28, 2010, to January 11, 2011. This cultural resource survey resulted in the identification of two previously unrecorded sites (16CD330 and 16CD331) and one isolated find (IF-1). These resources are recommended not eligible for the National Register of Historic Places. This recommendation is based on the lack of intact archaeological deposits. Without any connections to significant people or historic events, research potential for these resources is limited.

Based on the findings of the records review and cultural resource survey, no archaeological sites or historic properties listed in, or recommended eligible for, the National Register of Historic Places will be affected by the proposed activities, and cultural resource clearance is recommended.

Note that a principal investigator or field archaeologist cannot grant clearance to a project. Although the decision to grant or withhold clearance is based, at least in part, on the recommendations made by the field investigator, clearance may be obtained only through an administrative decision made by the LA SHPO.

If any previously unrecorded archaeological materials are encountered during activities in the project area, the LA SHPO should be notified immediately. If human skeletal material is discovered, the construction activities should cease, LA SHPO should be contacted immediately, and LA SHPO Guidelines should be followed.

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# APPENDIX A. SCOPE OF WORK

## Scope of Services

The survey area consists of approximately 313 acres associated with the proposed LED "Certified Site" location. The phase I archaeological investigations for the proposed project can be initiated within 5 working days of the notice to proceed and a detailed report of findings can be submitted to Franks Investment Company, L.L.C., within 15–25 business days of the completion of fieldwork, depending on the number and types of resources encountered, if any.

This work will be conducted in accordance with current specifications for conducting fieldwork and preparing a phase I cultural resources survey report issued by the Louisiana SHPO.

## File Search/Archival Research/APE

A review of the archaeological site files maintained by the LA SHPO will be conducted for the proposed project area plus a 1 mile buffer. The result of this review will be summarized in the report.

## Field Research

The field investigation will consist of an intensive survey of the proposed area following standard archaeological methods (i.e., pedestrian and shovel test survey). The portions of the project area that cross terrain with good surface visibility (for example plowed/cultivated fields) or characterized by steep slopes (creek bank) will be subject to pedestrian survey. This entails a walking, visual inspection of the ground surface to identify historic and prehistoric artifacts. Portions of the project that are located on relatively flat terrain with poor surface visibility will be shovel tested. This assessment method requires the excavation of screened shovel tests measuring 35 cm in diameter at intervals of 30 m or 50 m. All archaeological sites and historic structures discovered within the intensive survey area will be recorded following current LA SHPO specifications.

## Deliverables

The results of the archival and field investigation will be documented in a detailed written report. The report will conform to the specifications of the LA SHPO. The report will describe all cultural resources located during the investigation and make recommendations for their treatment in relation to potential impacts. In addition, site survey forms and historic structure forms will be prepared for each archaeological site and historic structure recorded with this data submitted to the proper agency. If a letter report is all that is needed a PDF will be submitted electronically. If a full compliance report is needed, five copies of the report will be submitted to Franks Investment Company, L.L.C., for distribution to reviewing agencies. CRA will make any necessary revisions to the report requested by the reviewing agencies.

# APPENDIX B. MATERIALS RECOVERED

## Table B-1. Historic Materials Recovered.

| Bag | Site | Unit # | Dep | Group | Class Definition | Type Definition | Combined Attributes | Count | Weight | Vessel Type | Function | MinDate | MaxDate | References |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | D | Ceramics | Whiteware | Plain, | 1 | 0.74 | - | | 1830 | | Majewski and O'Brien 1987:119 |
| 001 | 16CD330 | STP 4n | 0-10 cm bgs | D | Ceramics | Stoneware | Albany slipped exterior, Albany slipped interior, | 1 | 5.15 | - | | 1780 | 1925 | Greer 1999; Ketchum 1983 |
| 001 | 16CD330 | STP 4n | 0-10 cm bgs | D | Container Glass | Undiagnostic container fragment | Fragment, Clear glass, | 2 | 7.51 | Soda / Mineral water | Bottle - Jar | | | |
| 001 | 16CD330 | STP 4n | 0-10 cm bgs | D | Container Glass | Undiagnostic container fragment | Fragment, Amber glass, | 1 | 1.69 | Soda / Mineral water | Bottle - Jar | 1903 | | Jones & Sullivan 1985; Lindsey 2008 |
| 002 | 16CD330 | GSC 4n2 | surface | D | Container Glass | Undiagnostic container fragment | Fragment, Amber glass, | 1 | 7.38 | Soda / Mineral water | Bottle - Jar | | | |
| 002 | 16CD330 | GSC 4n2 | surface | D | Ceramics | Ironstone | Decal, | 1 | 2.03 | - | | 1890 | 1940 | Blaszczyk 2000:155; Majewski & O'Brien 1987:147; Wegars & Carley 1982 |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | A | Nails | Indeterminate | 6d, Indeterminate, | 4 | 25.45 | - | | | | |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | D | Ceramics | Whiteware | Plain, | 1 | 1.12 | - | | 1830 | | Majewski and O'Brien 1987:119 |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | A | Nails | Wire Nail | 40d, Pulled, Common, | 1 | 21.73 | - | | | | |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | A | Construction Material | Brick | Machine made brick | 4 | 45.5 | - | | 1876 | | Faulkner 2000 |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | U | Metal | Iron / Steel | Unspecified iron / steel, Amorphous, | 1 | 47.21 | - | | | | |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | A | Nails | Indeterminate | 8d, Indeterminate, | 9 | 16.8 | - | | | | |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | D | Ceramics | Stoneware | Bristol slipped exterior, Bristol slipped interior, | 1 | 1.75 | - | | 1780 | 1925 | Greer 1999; Ketchum 1983 |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | A | Nails | Wire Nail | 7d, Pulled, -, Common, | 1 | 2.73 | - | | | | |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | D | Container Glass | Undiagnostic container fragment | Fragment, Clear glass, | 2 | 8 | Indetermiate bottle/jar | Bottle - Jar | | | |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | A | Nails | Cut Nail: unspecified | 8d, Other, Other, | 4 | 12.44 | - | | | | |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | D | Container Glass | Other glass container | Fragment, Opaque white glass, | 1 | 0.19 | Indetermiate bottle/jar | Bottle - Jar | 1903 | 1960 | Fike 1987:13; Lindsey 2008; Jones & Sullivan 1985 |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | A | Flat Glass | Window Glass | 0.86 - 2.41 mm thick, | 4 | 2.56 | - | | 1785 | 1917 | Moir 1987 |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | D | Cookware | Lid / Cover | Fragment, Opaque white glass, | 2 | 2.75 | Canning jar | Bottle - Jar | 1903 | 1960 | Fike 1987:13; Lindsey 2008; Jones & Sullivan 1985 |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | D | Container Glass | Undiagnostic container fragment | Fragment, Aqua glass, | 2 | 1.47 | Indetermiate bottle/jar | Bottle - Jar | | | |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | D | Container Glass | Undiagnostic container fragment | Fragment, Clear glass, | 5 | 6.67 | Indetermiate bottle/jar | Bottle - Jar | | | |
| 003 | 16CD330 | STP n2 | 0-10 cm bgs | A | Nails | Wrought Nail | Pulled, -, T head, | 1 | 17.51 | - | | | | |
| 005 | 16CD331 | STP N2 | 0-10 cm bgs | A | Fittings and Hardware | Hinge | Iron / steel: machine made, | 1 | 108.79 | - | | | | |
| 005 | 16CD331 | STP N2 | 0-10 cm bgs | A | Nails | Wire Nail | 6d, Pulled, -, Common, | 1 | 2.22 | - | | | | |
| 005 | 16CD331 | STP N2 | 0-10 cm bgs | D | Container Glass | Undiagnostic container fragment | Fragment, Cobalt glass, | 1 | 0.18 | Indetermiate bottle/jar | Bottle - Jar | | | |
| 005 | 16CD331 | STP N2 | 0-10 cm bgs | D | Container Glass | Undiagnostic container fragment | Indeterminate, Amber glass, -, Indeterminate, Indeterminate lip | 2 | 2.7 | Soda / Mineral water | Bottle - Jar | | | |
| 004 | 16CD331 | STP E1 | 0-10 cm bgs | D | Container Glass | Undiagnostic container fragment | Indeterminate, Clear glass, Plain, Indeterminate lip | 1 | 21.41 | Soda / Mineral water | Bottle - Jar | | | |
| 006 | IF-1 | STP T23E3 | 10-20 cm bgs | A | Construction Material | Brick | Indeterminate brick | 1 | 1000 | - | | | | |