

Exhibit EE. Tamanend Business Park
East Site Phase I Cultural Resources
Assessment Report & Transmittal Letter



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NEGATIVE FINDINGS

A PHASE I CULTURAL RESOURCES SURVEY FOR
A PROPOSED 31 ACRE DEVELOPMENT PROJECT IN
ST. TAMMANY PARISH, LOUISIANA

FINAL REPORT

PREPARED BY
TERRAXPLORATIONS, INC.

PREPARED FOR
WREDCO



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ABSTRACT

On April 18 and 19, 2016 TerraXplorations, Inc. (TerraX) of Mobile, Alabama performed a cultural resources survey for a proposed 31-acre development project located southeast of St. Tammany and immediately south of Firetower Road in St. Tammany Parish, Louisiana. Total acreage for this project is 31.58 acres (12.77 hectares). The Phase I survey was performed by Chris Rivers and Nicholas Butler under the direction of Paul D. Jackson, Principal Investigator. The investigation failed to identify any cultural resources within the project area and background research identified no cultural resources that would be impacted by the proposed project. Accordingly, no further archaeological studies are recommended for the proposed development project.

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CHAPTER 1 INTRODUCTION

TerraXplorations, Inc. (TerraX) of Mobile, Alabama was contracted by WREDCO of Mandeville, Louisiana to conduct a cultural resources survey for a proposed 31-acre development project in St. Tammany Parish, Louisiana. The Phase I survey was conducted on April 18 and 19, 2016. Chris Rivers and Nicholas Butler performed the fieldwork with Paul D. Jackson serving as Principal Investigator. The purpose of this study was to determine if any prehistoric or historic properties exist within the limits of the project area, and if so, to document and assess each based on the National Register of Historic Places (NRHP) criteria. This survey was conducted to support the Louisiana Economic Development (LED) Site Certification process. There is currently no lead federal agency involved with this project.

The project area, encompassing approximately 31.58 acres (12.77 hectares), lies southeast of St. Tammany and immediately south of Firetower Road just west of its intersection with Miller Road. The subject property is found within Township 8 South, Range 13 East, Sections 3 and 4 as seen on the 1970 (revised 1994) St. Tammany, Louisiana USGS 7.5' series topographic quadrangle (Figure 1.1).

The property is covered primarily by planted pine forest, but also includes sections of hardwoods in the lowest portions of the area. The pine forest is interrupted by open grassy corridors that extend through the central and western portions of the area. Portions of the project area were inundated at the time of this investigation. Disturbances of note included silviculture activities, drainage ditches, and road disturbance. Photographs depicting the present state of the land within the project area are provided (Figures 1.2-1.4).

This report of Phase I investigations is presented as follows. Chapter 2 contains information regarding the past and present environmental conditions in the project area. Chapter 3 is a cultural background and context for the project area in general. Chapter 4 details the background research for this project. Chapter 5 presents the methodology and results of fieldwork. Chapter 6 concludes the report and summarizes our findings and recommendations. Appendix A contains the curation agreement.

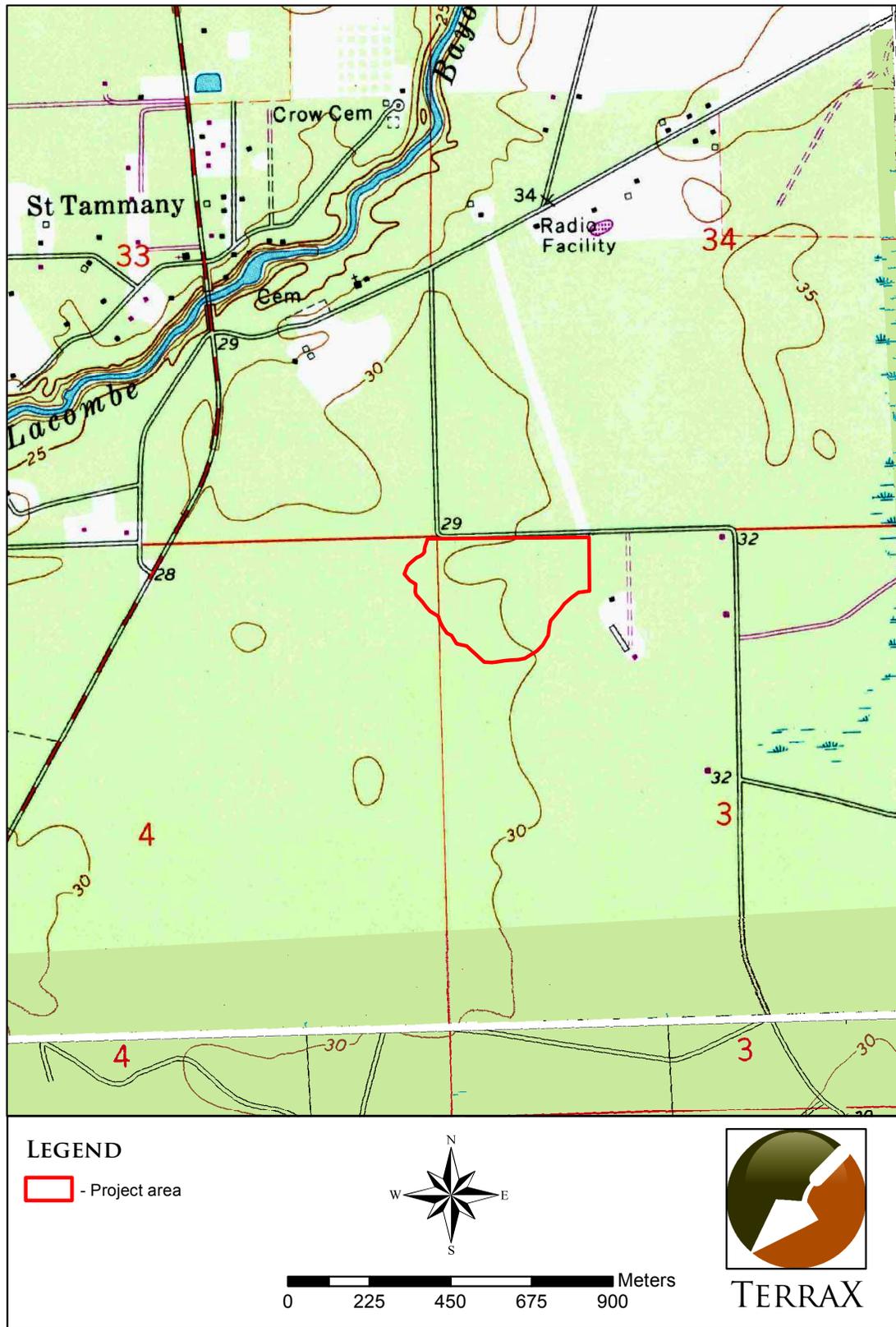


Figure 1.1. Map showing the project area (based on the 1970 [revised 1994] St. Tammany, Louisiana USGS 7.5' series topographic quadrangle).



Figure 1.2. View of planted pine forest and standing water in project area, facing west.



Figure 1.3. View of small hardwoods in low wetland area, facing east.



Figure 1.4. View of open grassy corridor within project area, facing west.

CHAPTER 2 PROJECT AREA ENVIRONMENT

The project area, located in southeast Louisiana in St. Tammany Parish, falls within the Gulf Coast Flatwoods ecoregion. Historically, longleaf pine covered the broad flats and low ridges in this region forming flatwoods and open savannas. Natural fire frequency was high, helping to maintain the open pine flatwoods and savannas. Unfortunately, most of these longleaf pine savannas have since been lost. Much of the landscape now consists of mixed forest or pine plantations. Some areas with better drained soils have been utilized for crop cultivation or as pastureland (Daigle et al. 2006).

Based on geological maps of Louisiana, the study area is occupied by Pleistocene terraces composed of sand, gravel, and mud (Figure 2.1). Surfaces are covered by poorly to moderately well drained silty to fine sandy loam soils. These terrace surfaces are remnants of old flood plains raised as the coastal plain tilted as a result of downwarping of the crustal floor of the Gulf of Mexico (Louisiana Geological Survey 2010).

The project area, as it presently exists, is mostly forested in planted pines, but also includes sections of hardwoods in the lowest portions of the area. The forest is interrupted by open grassy corridors that extend through the central and western portions of the area. Portions of the property were inundated at the time of this investigation. The topography here is nearly level with elevations ranging between 25 to 30 ft. above mean sea level. The area is drained by Lacombe Bayou located approximately 0.85 km to the northwest. Past disturbances to the property include silviculture activities, drainage ditches, and road disturbance.

A review of the Web Soil Survey (2016) identified three soil types within the project area including Myatt fine sandy loam, frequently flooded; Prentiss fine sandy loam, 0 to 1 percent slopes; and Stough fine sandy loam, 0 to 1 percent slopes. Myatt fine sandy loam, frequently flooded, is described as poorly drained soil found on stream terraces and formed from Pleistocene fluviomarine deposits. Typical soil profiles consist of fine sandy loam followed by loam and sandy clay loam.

Prentiss fine sandy loam, 0 to 1 percent slopes, is considered prime farmland. It is listed as moderately well drained soil occurring on the shoulder and crest of interfluves. Its parent material is Pleistocene age loamy fluviomarine deposits. Generally, soil profiles consist of fine sandy loam underlain by loam.

Stough fine sandy loam, 0 to 1 percent slopes, is also considered prime farmland. This soil type is reported as somewhat poorly drained soil found on terraces and created in loamy alluvium derived from sedimentary rock. Typically, soil profiles are comprised of fine sandy loam over loam and sandy clay loam.

The climate in St. Tammany Parish is described as humid subtropical. Summer months are long, hot, and humid, but are somewhat mitigated by tropical Gulf breezes. Average summer temperature is 80 degrees Fahrenheit (F) with the average daily maximum temperature being 91 degrees F. Winters are short and mild with rare brief periods of subfreezing temperatures. Average winter temperature is 53 degrees F with the average daily minimum temperature being 41 degrees F. The average annual rainfall total is 61 inches. This region is occasionally affected by tropical depressions or hurricanes during summer and fall months (Trahan et al. 1990).

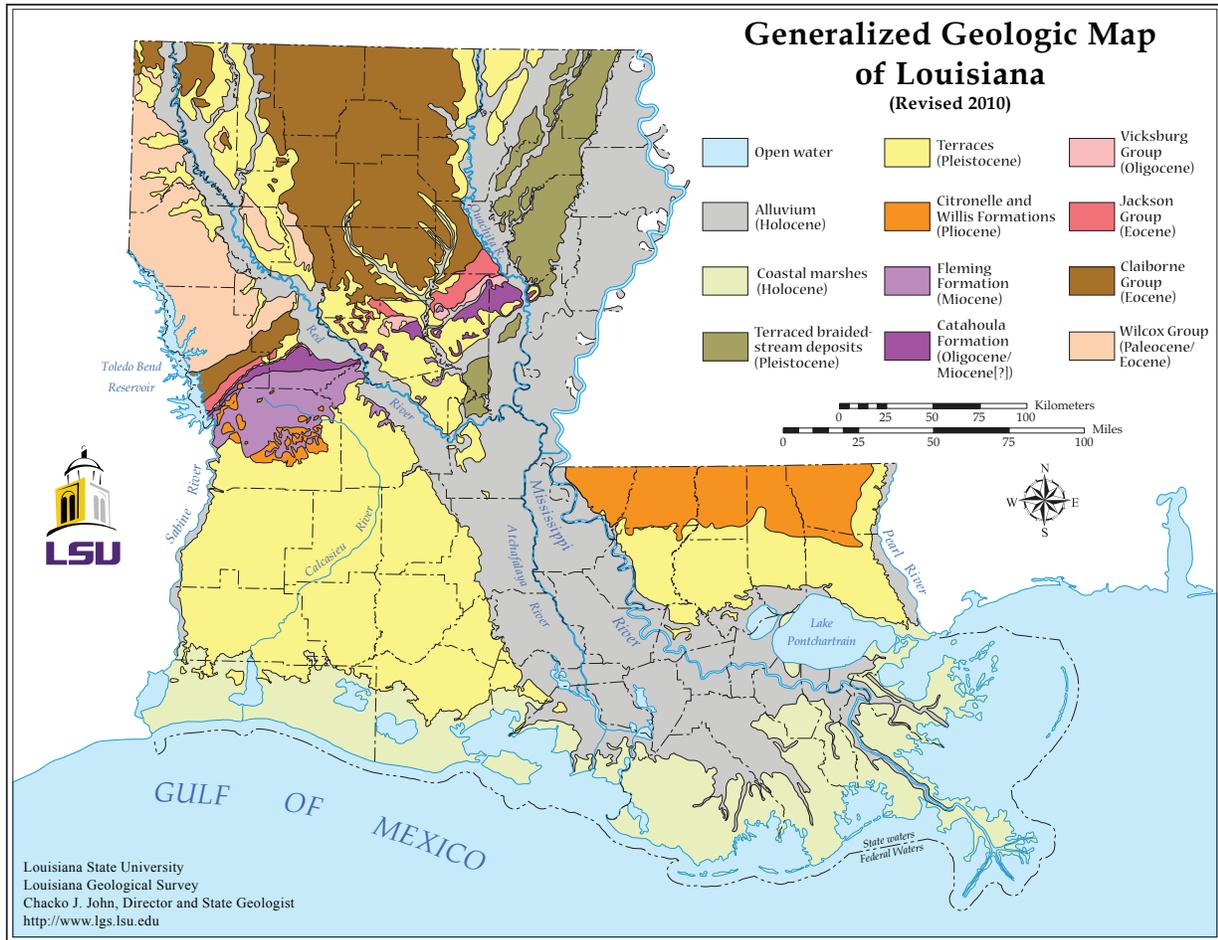


Figure 2.1. Geologic map of Louisiana (Louisiana Geological Survey 2010).

CHAPTER 3 CULTURAL HISTORY

PALEOINDIAN (10,000 TO 6,000 B.C.)

The earliest substantial human occupation in the Western Hemisphere is defined as the Paleoindian period. In Louisiana, and generally in the Southeast, this period has provisionally been grouped into three broad temporal categories defined as Early, Middle, and Late or transitional subperiods (Anderson et al. 1990; O'Steen et al. 1986:9).

It has been thought that the population of the Paleoindian period was highly adaptive, mobile hunter-gatherers whose ancestors had migrated from Siberia into North America between 12,000 to 10,000 B.P., although new discoveries are changing this long-held belief. This migration is believed to have occurred during a geologic period, the Pleistocene Epoch, when glaciers were expanding and retreating from fluctuations in the climate from cold to warm episodes (Anderson 1996). The population movements were presumably made possible when the colder periods of the Pleistocene Epoch captured large quantities of the earth's water in glaciers. This lowered sea levels and exposed large portions of the continent; allowing human populations to follow the Pleistocene mammals across the Americas. More recent evidence of a pre-Clovis culture has emerged, based on excavations at Meadowcroft Rockshelter in Pennsylvania, the Topper Site in South Carolina, and Cactus Hill in Virginia, that places modern humans in the New World some 2,000 years earlier than previously believed. Pre-Clovis tools include small bladelets, indicating an exploitation of a broader environment. While the controversy continues, it is recognized that Clovis points were in the southeastern U.S. around 12,000 B.P.

Paleoindian occupations are usually represented by the presence of a specialized type of projectile point. These points are large and feature channels or flutes that are created by the removal of a long, vertical flake from the center of one or both faces of the point (Walthall 1980). Point types indicative of this period and this region are Clovis, Folsom, Quad, Dalton, Plainview, and Scottsbluff (Gagliano and Gregory 1965). The size of the points reflects the hunting strategy of these early inhabitants, which focused on hunting large Pleistocene mammals. Bones of large Pleistocene vertebrates (mastodon, mammoth, ground sloth, etc), which are contemporaries of the Paleoindians, are found in alluvial and backswamp deposits (Gagliano and Gregory 1965). Paleoindian sites are rare, especially with the changing geography of much of southern Louisiana. The rising sea levels left coastal sites underwater, and the flooding and meandering of the Mississippi River buried other sites under layers of silt. Caddo Parish, in the northwestern part of the state, contains both Early and Late Paleoindian material (Neuman and Hawkins 1993). According to the Paleoindian Database of the Americas (PIDBA), less than 10 fluted projectile points have been found in Vermilion Parish (Anderson et al. 2010). Two Late Paleoindian sites were documented in adjacent East Baton Rouge Parish.

MESOINDIAN (6,000 TO 2,000 B.C.)

The three sub-periods of the Archaic period proper are believed to roughly approximate the transition from highly mobile, camp-based collector lifeways to more sedentary and opportunistic foraging lifeways.

During the Early Archaic period it is reasonable to assume there was a trend towards a more sedentary lifeway. Anderson (1996) discussed evidence that indicated a different trend which emphasized foraging adaptations in the Georgia Coastal Plain region during this time. Willey, Phillips, (Willey and Phillips

1958) and Caldwell (1958) viewed the Archaic stage as a dramatic shift from previous Paleoindian lifeways. However, as Walthall argues, this might have been true in northern regions where the drastic climatic shift precipitated large-scale population movements and material culture change, but in the non-glacial regions of the Southeast this change would have been much more gradual which would lead to imperceptible cultural adaptation.

Considering the cultural material typically present from this time period, we find a change in the biface from the previous period to be the most evident change. Rather than the long, fluted blades from the Paleoindian period, the Early Archaic bifaces have well-documented pan-regional sequences that includes the Side-Notched Tradition, the Corner-Notched Tradition, and the Bifurcate Tradition. The spears used by the Mesoindians were different than those of the earlier period; they were shorter, had a greater variety of stone points crafted from locally available stone, and were more simply crafted (Neuman and Hawkins 1993). Bone, antler, and shell tools and ornaments were also added to the tool assemblage during this period.

Fiber-tempered pottery in much of the Southeastern United States is generally considered under the rubric of Stallings Island, Orange, Wheeler, and Norwood Series, and it is thought to mark the transition between the Late Archaic and Early Woodland periods (i.e., Terminal Archaic). Also in the later portion of the Archaic period, people began horticulture to supplement their diets. Archaeological evidence indicates that people grew small portions of squash, sunflowers, and other seed-bearing plants in simple gardens (Sassaman and Anderson 2004:105).

NEOINDIAN (2,000 B.C. TO A.D. 1600)

Southeastern archaeologists generally distinguish the beginning of the Neoinian period (ca. 2250 to 1950 B.P.) by the introduction and regular use of stamped pottery and increased ceremonialism in ritual events and mortuary practices. During the Neoinian period, the introduction and intensification of horticulture, construction of earthworks, and elaboration of artistic expression and burial ritual are all thought to be related to a reorganization of social structure. The advent of horticulture would have meant that, at least for part of the year, groups would have had to remain sedentary in order to plant, tend, and harvest crops. Shell and earthen mounds were now regularly built throughout this area of Louisiana.

Although many technologies used during the Neoinian period were actually developed during the earlier Archaic periods, it was during the Neoinian stage that changes in social organization and economy from small dispersed bands of hunter-gathers to large, semi-permanent settlement began to take place. A much heavier reliance on horticulture followed and these changes were evidenced in the archaeological record. This period includes the Poverty Point, Tchefuncte, Marksville, Troyville-Coles Creek, and Plaquemine-Mississippian Cultures.

The Poverty Point Culture (2,000 to 700 B.C.) is named after the well documented Poverty Point Site (16WC5) in Louisiana. During this culture, Indians lived in small, dispersed groups, while others built and maintained regional centers. These centers served as ceremonial, political and trade areas. Gibson (1974) suggested this was the first time that a chiefdom was established. Trade across large areas is evidenced by copper from the Great Lakes; quartz crystals, novaculite, hematite, and magnetite from Missouri and Arkansas; gray chert from Ohio; and steatite from Alabama (Hunter et al. 1991). Tools unique to this culture include oval-shaped stone plummets that were presumably used as net weights or clay cooking balls. Neuman and Hawkins (1993) point out that this culture also includes planned villages, clay figurines, stone beads, pendants, and microtools.

The Tchefuncte Culture (500 B.C. to A.D. 200) followed the Poverty Point Culture and are set apart from early cultures by being the first Louisiana Indians to manufacture large amounts of pottery. In coastal Louisiana the shell middens are located in two primary areas, the Pontchartrain Basin around Grand Lake, and along the midden reaches of the Vermilion River (Hunter et al. 1991). The pottery was used to store and stew foods in a much more efficient manner. Unlike the previous Poverty Point Culture, the Tchefuncte Indians did not rely on imported trade materials to make tools and ornaments, instead they used local materials (Neuman and Hawkins 1993).

The Marksville Culture (A.D. 1 to 400) is generally recognized as a part of the Pan-Southeastern Middle Woodland tradition (Jeter et al. 1989:138). Trade, once again, increased from an area market to an inter-regional system linked to Adena-Hopewell influences from the Upper and Middle Mississippi Valley (Weinstein and Rivet 1978). These influences were most notable in the ceramics designs and even mortuary practices. Springer (1973:167) suggests late Marksville may exhibit a shift from the characteristic kin ties to a settlement with differing social classes.

The Troyville-Coles Creek period (A.D. 400 to 1100) is best known for the distinct spatial patterns present on the sites. These typically consist of a small series of small platform mounds positioned around a central plaza (Neuman 1984). This period also saw numerous examples of complicated stamping of ceramics in Louisiana. In addition, the bow and arrow was introduced at this period. The introduction of the bow and arrow might have led to the collapse of the Troyville-Cole Creek culture. The increase in available food led to an increase in population; they reached a level the communities could no longer support. The final change that precipitated this period and could have led to the cultural collapse was a change in weather patterns. Indeed, weather from around A.D. 500 to 800 was cooler and drier. This changed the availability of food at a time when Indian societies were already stressed to provide for the growing populations. These stresses led to an increase in warfare that continued into the following period (Stoltman 1978:725).

The Plaquemine culture (A.D. 1200 to 1700) takes its name from the Medora Site (16WBR1), which is found in the town of Plaquemine, Louisiana. This period was witness to the zenith of eastern Woodland culture in terms of organization and complexity. During this time an almost simultaneous florescence occurred over many parts of the Southeast, resulting in the development of large, hierarchical societies centered at impressive mound complexes such as Cahokia in present day Illinois, Spiro in Oklahoma, Moundville in Alabama, and Etowah in northwest Georgia. Differentiating the Plaquemine culture further from their earlier Troyville-Coles Creek ancestors is seen in the brushing and engraving techniques observed in their pottery (Smith et al. 1983).

The Caddo culture (A.D. 800 to 1540) began to emerge in northwest Louisiana while the Plaquemine culture thrived across the remainder of the state. These periods represent the last major periods of unadulterated Indian cultural development in the Southeast. The term Caddo refers to a group of closely related Indian groups who occupied northwestern Louisiana, northeastern Texas, southwestern Arkansas, and southeastern Oklahoma (Smith et al. 1983). Burial practices, deities, and differing ceramic techniques distinguish the Early Caddo period from the Coles Creek period. The Middle Caddoan period saw a decline in mound building with large population centers replaced by small upland settlements along streams. Single burials with few offerings were chosen over shaft burials (Webb and Gregory 1986). Late Caddo shows an increase in floodplain settlements with a return to mound building. The historic Caddo period saw the rise of several tribes with unique dialect and customs. In Louisiana, the five Caddo speaking tribes included the Ouachita, Natchitoches, Adaes, Doustioni, and Yatasi. These Caddo tribes remained in Louisiana until 1835, leaving for Oklahoma soon after they sold nearly one million acres of land to the United States (Cliff and Peter 1994).

HISTORIC EXPLORATION (1541 TO 1803)

By the time Europeans made contact with the inhabitants of North America, the people living in this area had developed a complex society with a trade network that brought in exotic items from across the continent (Buxton and Crutchfield 1985). Trading paths connected villages and these would later be used by European explorers and settlers to enter the area.

It is thought that the first Europeans that the Indians living in the area could have met were Hernando De Soto and his men. De Soto had sailed with Pizarro for Peru and returned to Spain a fabulously rich man. Politically well connected, he was granted the right by Charles V of Spain to conquer Florida, which at that time included the project area. De Soto landed near Tampa Bay in 1537 with 1,000 men and spent the next four years wandering the interior of the southeast U.S. determined to duplicate his earlier success (Alchian 2008). This invasion brought great grief to every group that was unfortunate enough to have been encountered by De Soto and his men. The Spanish left a path of destruction across the lands they traveled, torturing and murdering indiscriminately as they sought anything of value they could steal from the local inhabitants.

Spanish incursions into the interior introduced diseases that had evolved among the populations in Europe and Asia. The people living in the “New World” had no natural defenses for these pathogens and consequently, after being exposed, they died in staggering numbers. It has only been in the last generation of scholarship that the scope of this human catastrophe has been recognized. Most scholars currently accept that it was possible that 90 to 95 percent of the pre-contact population died as a result of this pandemic (Ethridge 2003). It would be hard to overestimate the negative effects such a disaster would have on any human society. Evidence of the disruption Southeastern cultures experienced can be found in the archaeological record. Platform mound building ceased shortly after 1540 and Indian trade networks, ancient at the time of contact, also seem to have been disrupted. Exotic high status items like native copper disappear from the archaeological record and seem to be slowly replaced by exotic items of European manufacture (Hahn 2004). As the Indian population struggled to recover from this catastrophe, the European presence along the coast grew.

When Europeans returned to the interior they would often comment on the number of unoccupied villages they encountered, completely intact but missing their population. What typically brought Europeans back to the interior was trade and this trade would have dire consequences for the Indian people. European trade goods proved addictive. The experience of having a steady supply of cloth, iron tools, and muskets quickly transformed these items from luxuries into necessities. The Indians had the dilemma of coming up with something the English wanted in trade. For a while there was a large market for enslaved Indians and later for deer skins and furs. This trade led to entanglement in the affairs of the colonial powers, usually with bad effects.

After De Soto, the next European to enter the Louisiana region was a Frenchman named Robert Cavalier de la Salle. In 1682, his company sailed down the Mississippi River to the Gulf of Mexico and encountered native Bayougoula people in modern day Iberville Parish (Bryant et al. 1982:31-32). La Salle attempted to return to the area two years later but could not relocate the Mississippi River and eventually became stranded on the Texas Coast. In 1699, Pierre Le Moyne d’Iberville arrived with the second French expedition of the area. Rather than working south along the Mississippi River, Iberville chose to follow the coast to the Mississippi River and then work north. Iberville travelled up the river to modern day Point Coupee Parish. After this successful expedition Louisiana was opened to settlement (Bryant et al. 1982:33-36).

In 1699, Pierre Le Moyne d'Iberville founded Fort Maurepas on Biloxi Bay near present-day Ocean Springs, Mississippi. The French government began handing out land grants in the area, with most of the settlement concentrated around the Mississippi River, Lake Ponchartrain, and the Gulf Coast. The so-called Florida Parishes, of which East Feliciana is a part, grew slowly. In 1763, there were less than 500 people, including those enslaved, in these parishes (Eberwine et al. 2009). With the end of the Seven Years' War in 1763, control of these parishes shifted from France to Great Britain. The British were generous with their land grants, as they wanted loyal subjects across their British West Florida holdings. Many people from the English colonies and Britain moved to the region and established large plantations. In September of 1779, Captain William Pickles won a naval battle in the Battle of Lake Pontchartrain that effectively ended the Revolutionary War in Louisiana. In October, British living between "Bayou La Combe and the River Tanchipaho" surrendered to Capt. Pickles (sainttammany-parish.net 2016). The 1783 Treaty of Paris gave West Florida to Spain.

ANTEBELLUM PERIOD (1803 TO 1860)

While the Anglo-American settlers were technically part of Spain, they made no secret of their desire to be part of the United States. Unfortunately for them, the 1803 Louisiana Purchase did not include them. They revolted in 1810, forming the Independent State of West Florida, which was almost immediately annexed by the U.S. Four parishes were included in this: Feliciana, East Baton Rouge, St. Helena, and St. Tammany. St. Tammany was named for Delaware Indian chief Tamanend, who held peace talks with William Penn and was well respected (sainttammany-parish.net 2016). In 1812, the state of Louisiana was admitted to the Union.

The town of Mandeville was created in the 1830s, originally as a vacation spot for wealthy people from New Orleans. It was believed that some of the trees there emitted ozone that had healing properties. A steamboat ferry ran from New Orleans across Lake Pontchartrain to Mandeville. Other resorts popped up, including Abita Springs. Madisonville was known for its shipbuilding and sawmills. As the soils here were not as rich as those closer to the Mississippi River, cotton production was low until the introduction of a Siamese black seed variety from the Caribbean (Saint Tammany Parish Government 2014). Covington is the seat of the parish, also known as the Northshore as it is on the north shore of Lake Pontchartrain.

WAR AND AFTERMATH (1860 TO 1890)

Louisiana's settlement and economy were put on hold during the Civil War as Union and Confederate forces contested Louisiana, and in particular, the head of the Mississippi River. New Orleans fell to Union forces in 1862, followed by Baton Rouge. Defensive fortifications were constructed at Port Hudson in an attempt to block Union troops from going upriver to Vicksburg. In May of 1863, Major General Nathaniel P. Banks led 30,000 Union soldiers against Port Hudson, defended by 7,500 Confederates under General Franklin Gardner. This was the first time that commissioned African American troops were used, with devastating results. Due to faulty information, the African Americans were sent into an area where they were hemmed in by swamps on either side and were easy targets for Confederate forces on a high bluff above them. The battle raged for 48 long days, until Vicksburg surrendered on July 4, 1863 and the Union called off the Port Hudson fighting. Although the Union won, they suffered some 4,300 casualties to the Confederate's 700 (Eberwine et al. 2009).

St. Tammany Parish became overrun with refugees from New Orleans who refused to take the oath of allegiance to the Federal government. Already unable to feed its own residents, the parish was hit hard by the added influx. Union troops destroyed crops and livestock in an attempt to starve the populace. To add

to the misery, deserters hid in the nearby Pearl River swamps and made raids upon the residents, killing and stealing to get food and supplies (St. Tammany Parish Government 2014).

Louisiana saw an economic reorganization after the end of hostilities. This “reconstruction” process left the great majority of its people despondent and poor. Wealthy land owners returned home to find their houses and outbuildings burned and their cropland in the hands of tenant farmers and newly freed slaves. In 1866, there were over six million acres of federal land that had been surveyed but not purchased. The Southern Homestead Act was meant to offer this land at nominal fees to poor people. The very next year, the Act was repealed and the land was up for grabs by any buyer. With prices as low as 45 cents an acre, wealthy buyers could, and did, purchase over 100,000 acres each. Over a million acres were bought up by Northerners. The mid-1870s saw rampant vigilante violence. In 1877, Louisiana rejoined the Union, being one of the last southern states to do so. In the 1880s, thousands of acres were unplanted due to lack of labor and capital.

At this time, approximately 85 percent of the state was forested. Longleaf pine existed in virgin stands of trees up to 200 years old. The open areas beneath the trees were free of underbrush and this environment was very conducive to easy lumbering. Cypress trees were predominant in the swamps and in the early twentieth century, Louisiana led the nation in cypress production. Pine forests were more plentiful, but there were plenty of mills for both tree species (Fricker 2015).

Slowly the lumber industry become more and more important for its economic potential for Louisiana residents (Bryant et al. 1982:63). Innovations in the 1880s and 1890s, such as the skidder, pullboats (barges), and railroad dummy lines, facilitated the removal of logs from the woods and swamps. The expansion of the railroads went hand-in-hand with the timber harvest, not only providing access to the trees, but also carrying lumber to markets. Towns sprang up around the sawmills, built and owned by the lumber companies. Once an area had been stripped of its trees, the mono-purpose towns were either dismantled by the lumber company or left to become ghost towns. Even small towns that existed prior to a sawmill became like company towns. Usually the timber company was the largest employer and made possible civic improvements; bankrolling fire departments, ice plants, brass bands, and baseball teams (Fricker 2015). In some cases, the longleaf pine areas were replanted with slash and loblolly pines or planted with grass for use as pasture. Much of the land was left to grow over with hardwoods and the old longleaf forests became a thing of the past.

INDUSTRIAL AND MODERN (1890 TO PRESENT)

In 1900, the literacy rate for African Americans was only 39 percent. Black students, who had been woefully neglected, were aided by the creation of Rosenwald schools. African Americans continued to flee the agricultural south in favor of industrial jobs in the northern cities. In addition to the migration, influenza and military service in World War I contributed to the labor shortage. Agricultural pay was still woefully inadequate, going from about 80 cents per day in the early 1920s to only about 95 cents per day in the early 1930s (Lee et al. 2010).

Known as the “father of forestry in the South,” Henry E. Hardtner, a Louisiana native, was an early conservationist. As early as 1905, Hardtner noticed the bleak landscapes created after areas were clear-cut. He instituted the practice of cutting only trees with a certain minimum diameter, leaving small trees. In 1908, he was appointed chairman of the state’s first Commission for the Conservation of Natural Resources (Fricker 2015). Cotton became less important as a crop as agriculture became more diversified in the 1930s-1940s.

In 1956, a causeway was built over Lake Pontchartrain to connect New Orleans with Mandeville. A second span was added in 1969. The Lake Pontchartrain Bridge is the longest continuous bridge over water in the world (Louisiana's Northshore 2016). The parish is also connected to New Orleans on the east side by Interstate 10 bridges. St. Tammany Parish has become a bedroom community for people who work in New Orleans but do not want to live in New Orleans. It is now the most affluent parish in the state.

St. Tammany Parish received the full brunt of Hurricane Katrina as the western eye wall passed directly over the parish as a Category 3 storm on August 29, 2005. The storm surge extended over six miles inland, damaging or destroying almost 50,000 housing units. The home of Grammy-award winner Clarence "Gatemouth" Brown (1925-2005) in Slidell was devastated. Brown fled to Orange, Texas where he died less than two weeks later (St. Tammany Parish Government 2014).

CHAPTER 4 PREVIOUS RESEARCH

LITERATURE AND DOCUMENT SEARCH

Background research was conducted prior to the survey to identify previously recorded historic and prehistoric properties within a one-mile radius of the proposed project area located in St. Tammany Parish, Louisiana. This search included an online query of the Louisiana Division of Archaeology [LDOA] Cultural Resources Viewer (LDOA 2016) performed on March 24, 2016. A one-mile (1.6 kilometers [km]) radius search was conducted around the project area for previously recorded archaeological sites, previous cultural resources surveys, and previously recorded historic structures. An examination of the Historic Standing Structure Survey Files at the State Library in Baton Rouge, Louisiana was performed on April 26, 2016 to ascertain whether any historic resources have been recorded within or near the study area that are not depicted on the LDOA Cultural Resources Viewer (LDOA 2016). Lastly, a query into the National Register of Historic Places (NRHP) (National Park Service 2016) was conducted. The project area is found within Township 8 South, Range 13 East, Sections 3 and 4 as seen on the 1970 (revised 1994) St. Tammany, Louisiana USGS 7.5' series topographic quadrangle (Figure 4.1).

Research of the LDOA Cultural Resources Viewer (LDOA 2016) identified one previously recorded archaeological site (16ST263) and four previous Phase I cultural resources surveys (22-1918, 22-2921, 22-2921-1, and 22-5052) within a mile (1.6 km) of the current study area (see Figure 4.1). Site 16ST263, also known as the STAC Site, was recorded by SURA, Inc. in 2014. The site lies approximately 1.2 km southwest of the current project area and is reported as a small unknown historic surface scatter comprised of ceramics, glass, oxidized metal, and brick fragments. Considering all shovel tests placed within the site limits were negative, SURA recommended it as ineligible for NRHP inclusion.

LDOA# 22-1918. *Cultural Resources Survey of the Proposed Right-of-Way of Highway 3241 in St. Tammany Parish, Louisiana* (Shuman et al. 1996). Compliance Consultants, Inc. performed this 17.8 mile (28.6 km) linear survey in 1996. The investigation discovered four prehistoric sites (16ST164, 16ST165, 16ST166, and 16ST167), as well as four standing structures, a cemetery, and one toxic waste dump site. The archaeological sites identified include an unknown prehistoric lithic scatter (16ST164), a Middle Archaic-Early Woodland and post-Tchefuncte site (16ST165), a Late Archaic to Middle Woodland site (16ST166), and an Archaic through Woodland period site (16ST167/Gum Swamp Site). The Gum Swamp Site is considered eligible for NRHP inclusion as it yielded intact cultural features. The remaining three sites were recommended ineligible for NRHP consideration. All of these identified resources lie outside of the one-mile search radius for the current project.

LDOA# 22-2921. *Cultural Resources Survey, I-12 to Bush Corridor Study, St. Tammany Parish, Louisiana* (Parrish et al. 2011). Earth Search, Inc. conducted this 68.6 mile (110.4 km) road realignment survey in 2010. A portion of the survey extends through the current study area. The Phase I survey resulted in the recording of four new archaeological sites (16ST202, 16ST203, 16ST206, and 16ST235), four isolated finds, and 22 historic standing structures. One previously recorded archaeological site (16ST167) was also revisited. The archaeological sites identified or revisited include two early to mid-twentieth century artifact scatters (16ST202 and 16ST206), an alignment of the New Orleans Great Northern Railroad (16ST235) constructed in 1906, a small prehistoric lithic scatter (16ST203), and a prehistoric site (16ST167/Gum Swamp Site) containing Archaic through Woodland period components. None of the newly recorded sites or historic structures are considered eligible for the NRHP. Earth Search concurred that Site 16ST167

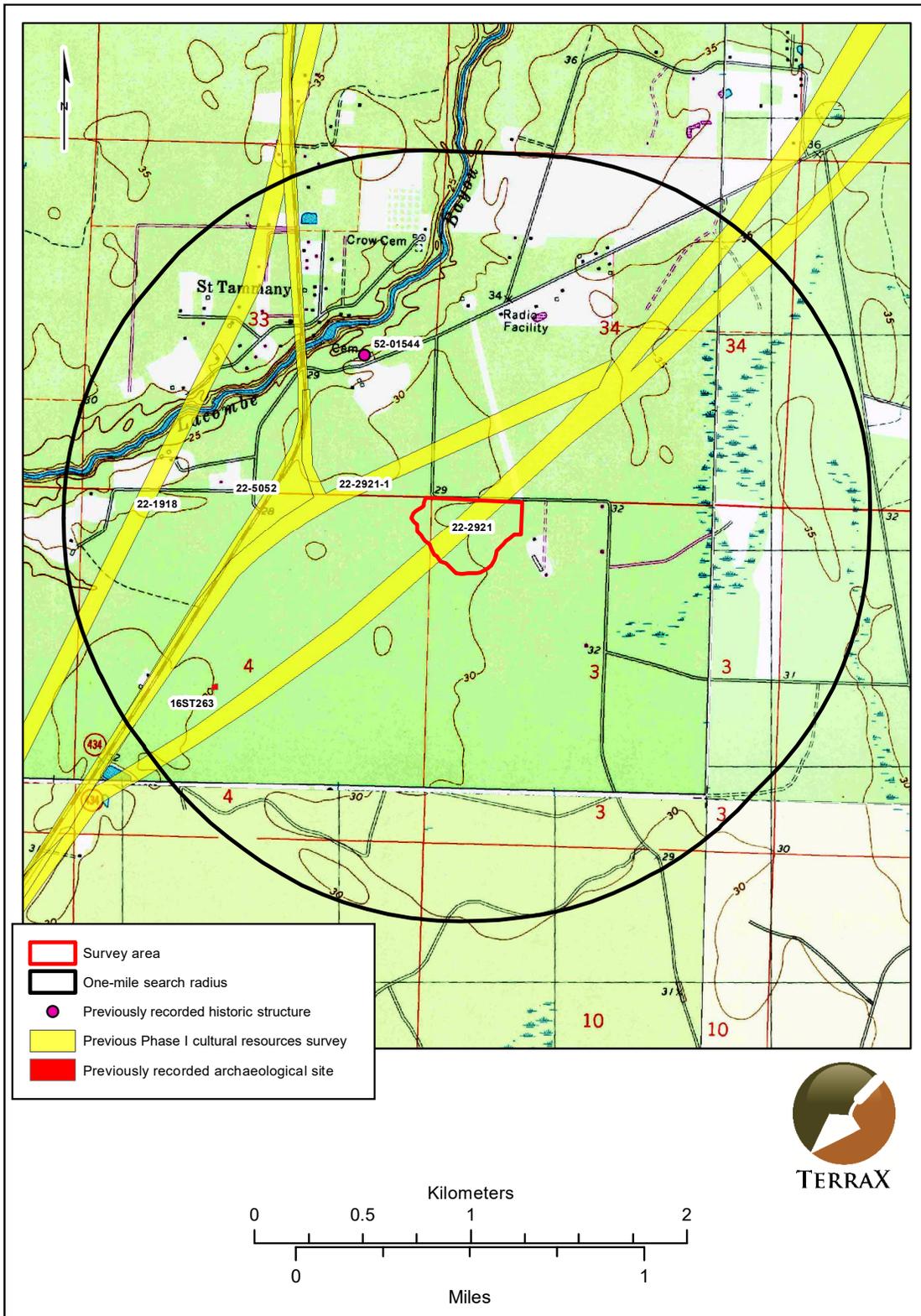


Figure 4.1. Map showing the survey area, the one-mile search radius, four previous cultural resources surveys, one previously recorded archaeological site, and one previously recorded historic structure (based on the 1970 [revised 1994] St. Tammany, Louisiana USGS 7.5' series topographic quadrangle).

should remain eligible for nomination to the NRHP with avoidance or further testing recommended. All of these identified resources lie outside of the one-mile search radius for the current project.

LDOA# 22-2921-1. *Addendum: Phase I Cultural Resources Survey for the I-12 to Bush Corridor Study Area, St. Tammany Parish, Louisiana (22-2921) Negative Findings Report* (Parrish and Smith 2014). Earth Search, Inc. conducted this 73.2 acre (29.6 hectare) survey in 2013 for an alternative route and two ancillary roads. No cultural resources were identified during this investigation.

LDOA# 22-5052. *Phase I Cultural Resources Survey for the Louisiana Highway 434 (LA 434), St. Tammany Parish, Louisiana (H.004981)* (Lee et al. 2015). Earth Search, Inc. performed this 77.5 acre (31.36 hectare) survey in 2014 and 2015. No archaeological sites were identified; however, 12 historic structures were recorded. Four of the 12 structures were recommended eligible for NRHP nomination. None of these structures lie within the one-mile search radius for the current project.

Inspections of the LDOA Cultural Resources Viewer (LDOA 2016) also identified one historic resource, Peace Grove Baptist Church (52-01544), located on the north side of Horse Shoe Island Road approximately 0.7 km northwest of the current study area (see Figure 4.1). Peace Grove Baptist Church is a one-story wood frame, front gable structure with a metal roof. The church was organized in 1892, but the structure dates to ca. 1920. A concrete block addition was made to the rear of the structure in 1970. Associated with the church is a cemetery, an outhouse, and a former school building, which is no longer extant. The recorder, survey date, and assessment of significance for this resource are not provided on the Louisiana Historic Resource Inventory form.

Lastly, an examination of the Historic Standing Structure Survey Files at the State Library in Baton Rouge, Louisiana and the NRHP online files (National Park Service 2016) failed to identify any previously recorded historic properties within a mile (1.6 km) of the project area.

CHAPTER 5 METHODOLOGY AND FIELD RESULTS

FIELD METHODS

The field survey conducted implemented standard archaeological survey techniques. Full land coverage requirements were achieved through visual inspections of the entire survey area and subsurface testing. While conducting visual inspections, any exposed surfaces were carefully examined for cultural material.

Subsurface testing was performed along 30-m interval transects comprised of shovel tests spaced 30 m apart. Standard shovel tests consist of 30 centimeter (cm) diameter cylindrical holes excavated to the top of the sterile subsoil layer or until water was encountered. Soils from each test were screened through 1/4-inch (0.64 cm) hardware cloth for the purpose of recovering any cultural material that may exist at that location. If cultural material is encountered, the material is sorted by provenience and placed into bags labeled with the pertinent excavation information before being transported to TerraX's laboratory. No cultural material was recovered during this project.

LABORATORY METHODS AND COLLECTION CURATION

All cultural materials recovered during field projects are delivered to TerraX's laboratory in Tuscaloosa, Alabama for processing. Here, materials are sorted by provenience, cleaned, and analyzed. Along with the cultural material, all project records, photographs, and maps produced while conducting the investigation are transported for curation at the Office of Archaeological Research, Erskine Ramsay Curation Facility, University of Alabama Museums, Moundville, Alabama. A copy of the curation agreement can be found in Appendix A.

RESULTS OF FIELD INVESTIGATION

Visual inspections and subsurface testing failed to locate any cultural material within the project area. The investigation included the placement of 144 shovel tests along 17 transects (Figure 5.1). Of the 144 total shovel tests placed, 82 were negative and 62 were not excavated primarily due to wetlands/standing water, but also due to road disturbance and drainage ditches. Shovel test profiles typically exposed 10 to 25 cm of dark gray fine sandy clay to clay loam underlain by yellowish brown silty clay to clay, which was occasionally mottled with gray clay. Within the lowest elevation portions of the project area hydric soils were noted consisting of 10 to 20 cm of dark gray clay loam underlain by light gray clay loam mottled with strong brown clay.

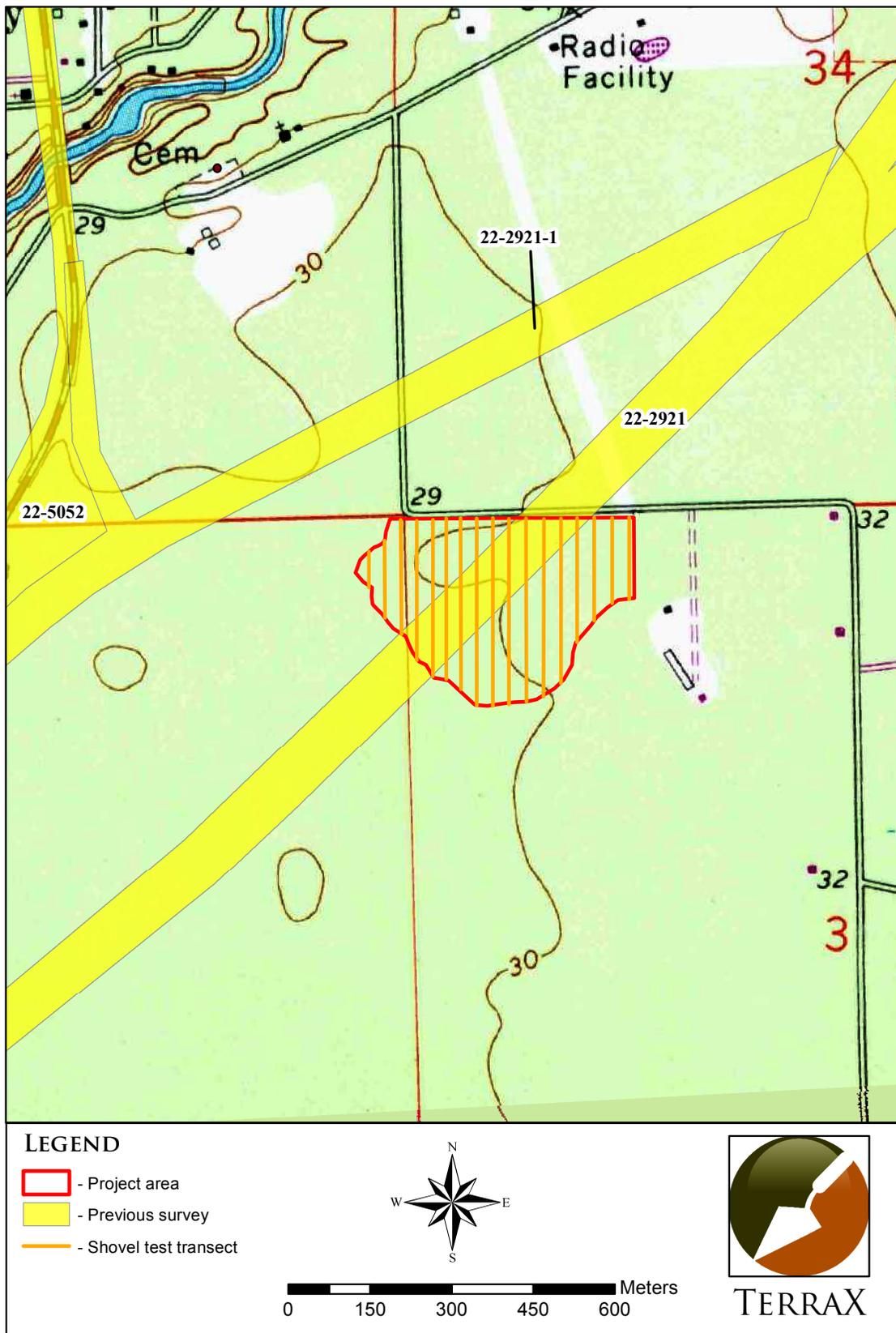


Figure 5.1. Map showing shovel test transects within the project area (based on the 1970 [revised 1994] St. Tammany, Louisiana USGS 7.5' series topographic quadrangle).

CHAPTER 6 SUMMARY AND RECOMMENDATIONS

TerraX, under contract with WREDCO of Mandeville, Louisiana performed the Phase I cultural resources survey for a proposed 31-acre development project in St. Tammany Parish, Louisiana in compliance with federal and state regulations. The Phase I survey was performed on April 18 and 19, 2016 by Chris Rivers and Nicholas Butler under the supervision of Paul D. Jackson, Principal Investigator. The investigation failed to identify any cultural resources within the project area and background research identified no cultural resources that would be impacted by the proposed project. Accordingly, no further archaeological studies are recommended for the proposed development project.

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APPENDIX A
CURATION AGREEMENT



Feb. 23, 2016

Paul Jackson
TerraXplorations
3523 18th Avenue NE
Tuscaloosa AL 35406

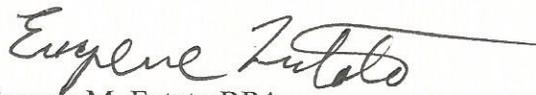
Dear Paul:

As per your request, this letter is to confirm our standing agreement with you to provide curation services to TerraXplorations on an as-needed basis. As you know, we are recognized by a variety of Federal agencies as a repository meeting the standards in 36 CFR Part 79 and have formal agreements to provide curation under these guidelines to agencies such as the National Park Service, U.S. Fish and Wildlife Service, U.S. Soil Conservation Service, U.S. Army Corps of Engineers, Tennessee Valley Authority, National Forest Service, etc.

Please be advised that once a year we must be notified of all reports in which we were named as the repository. Project collections must be submitted within one calendar year of completion. Small projects may be compiled for periodic submission. The AHC survey policy specifies which materials must be curated (Administrative Code of Alabama, Chapter 460-X-9). Note that collections must be curated whether or not artifacts are recovered. Renewal of this agreement is contingent upon compliance.

We appreciate this opportunity to be of assistance and look forward to working with you in the future.

Sincerely,


Eugene M. Futato RPA
Deputy Director