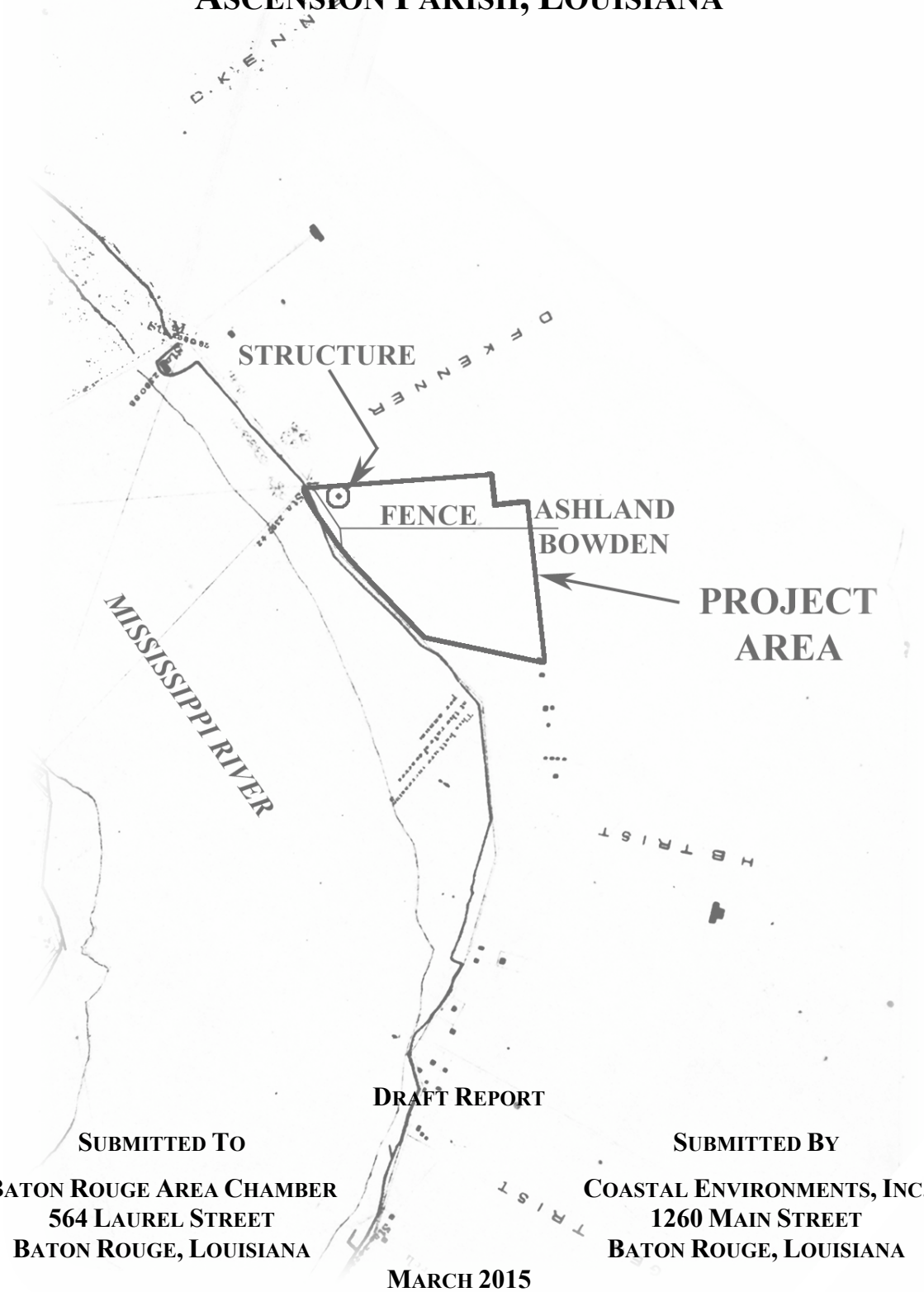
Exhibit FF. Parks Geismar Site Phase I Cultural Resources Assessment Report

PHASE I CULTURAL RESOURCES SURVEY OF THE 49.14 AC (19.89 HA) PARKS GEISMAR TRACT ASCENSION PARISH, LOUISIANA



DRAFT REPORT

SUBMITTED TO

BATON ROUGE AREA CHAMBER
564 LAUREL STREET
BATON ROUGE, LOUISIANA

SUBMITTED BY

COASTAL ENVIRONMENTS, INC.
1260 MAIN STREET
BATON ROUGE, LOUISIANA

MARCH 2015

PHASE I CULTURAL RESOURCES SURVEY OF THE 49.14 AC (19.89 HA) PARKS GEISMAR TRACT ASCENSION PARISH, LOUISIANA

DRAFT REPORT

PREPARED BY

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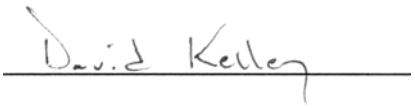

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ABSTRACT

In February 2015, Coastal Environments, Inc. (CEI), undertook a Phase I cultural resources survey of the Parks tract near the community of Geismar in Ascension Parish, Louisiana, for the Baton Rouge Area Chamber (BRAC). The survey was conducted as part of the Louisiana Economic Development Site Certification process. The project area is situated along the natural levee of the east bank of the Mississippi River. The BRAC project area measures approximately 187.57 ac (75.91 ha); however, 138.43 ac (56.02 ha) were previously surveyed by URS Corporation in 2013. The remaining 49.14 ac (19.89 ha) were surveyed by the CEI during the course of the current work.

Three previously recorded sites are located within that portion of the BRAC study area surveyed in 2013. Avalon SA-3-01 (16AN93), Avalon SA-3-02 (16AN94) and Avalon SA-3-03 (16AN95) are all historic sites. All three sites have been determined to be ineligible for inclusion on the National Register of Historic Places (NRHP). The current CEI survey also located three archaeological sites: Parks 1 (16AN107), Parks 2 (16AN108) and Parks 3 (16AN109). All date to the historic period. It is recommended that 16AN107 and 16AN108 are not eligible for inclusion on the NRHP and that no additional work be required at either site. The circa 1835–1860 Parks 1 (16AN107) site includes *in situ* archaeological deposits. It is recommended that the Parks 1 (16AN107) site be avoided by future construction. If the Parks 1 (16AN107) site cannot be avoided, it is recommended that the site be tested for National Register eligibility. Included within the limits of Parks 1 (16AN107) is a previously recorded structure given the temporary designation SS-SA 1.1-01 by URS in 2013. It has not yet been assigned an official stranding structure number. The structure has been determined not eligible for inclusion on the NRHP. No other structures currently stand within the Parks Geismar area of potential effects.

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CHAPTER 1

INTRODUCTION

In February 2015, Coastal Environments, Inc. (CEI), was contracted by the Baton Rouge Area Chamber (BRAC) to conduct cultural resources investigations of the Parks Geismar project area in Ascension Parish, Louisiana. The survey was conducted as part of the Louisiana Economic Development Site Certification process. The irregularly shaped project area is located in Sections 15 and 18-23 of Township 10 South, Range 2 East, Southeastern District (East of the Mississippi River), Louisiana (Figure 1-1). The BRAC project area consists of 187.57 ac (75.91 ha). Of that area, 138.43 ac (56.02 ha) had been previously surveyed by URS Corporation in 2013 (hashed area of Figure 1-1) and required no further work. The unsurveyed portion of the project area includes 49.14 ac (19.89 ha) and was the location of the present CEI survey (highlighted yellow area on Figure 1-1).

The project area is located off of LA 75, within the property of South Wood Terminal, LLC. The 49.14-ac CEI project area is entirely within the historic boundaries of Ashland Plantation and later the Bell Helene Plantation. It lies within a quarter of a mile south of Ashland-Belle Helene (16AN26) and a tenth of a mile north of Bowden Plantation (16AN59). The area that CEI investigated is located on level ground mostly covered by secondary-growth forest. Ground visibility was generally poor due to vegetation.

Background research for this project began in February 2015 and continued throughout the course of the project. The archaeological fieldwork for the 49.14-ac portion of the project area was carried out by a three-member crew, consisting of Michael P. Carpenter, Euan Wallace and Philip Jungeblut between 10 and 12 February 2015. The goals of these cultural resources investigations were to locate all cultural resources within the

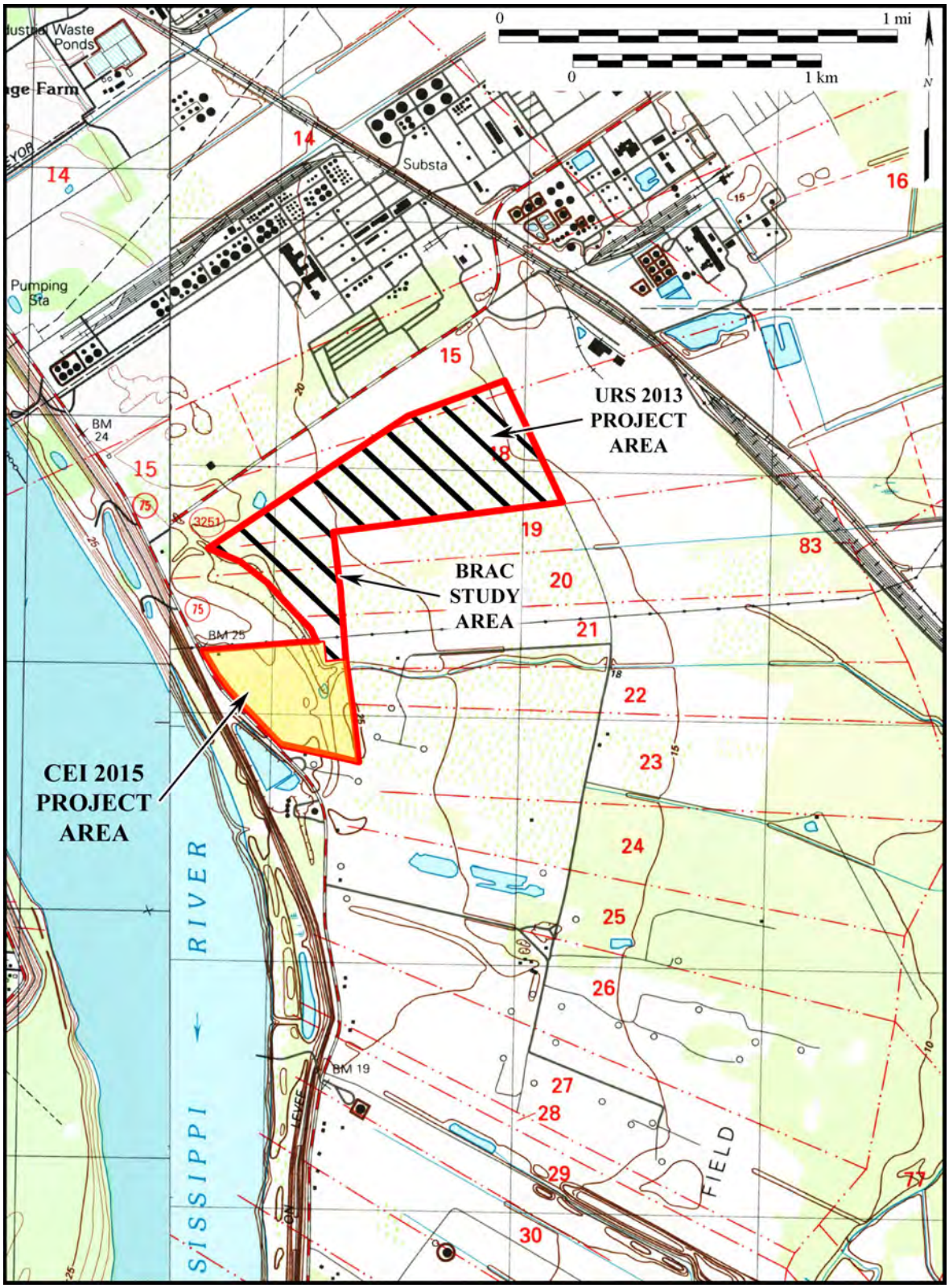

Figure 1-1. **The CEI Parks Geismar cultural resources survey project area (shaded yellow) (USGS 1998, 1999). Note that the remainder of the BRAC study area was surveyed by URS in 2013 (hashed).**

project area and to assess their significance in terms of National Register eligibility through guidelines established by the National Park Service (1991).

The following chapters detail the results of the cultural resources investigations required for the Parks Geismar project. Chapter 2 provides a synopsis of the geological and environmental setting of the project area. Chapter 3 discusses the region's cultural history in relation to the investigation's findings, while Chapter 4 summarizes the previous research conducted in the area. Chapter 5 details the analytical techniques employed. Chapter 6 details the cultural resources investigations, and Chapter 7 presents the conclusions and recommendations resulting from these investigations.

CHAPTER 2

NATURAL SETTING

Geomorphology

The project area is situated along the natural levee of the east bank of the Mississippi River. Natural levees develop during periodic overbank flooding as the result of deposition of river-borne sediments (Gagliano 1963; Heinrich 1991; Saucier 1963). These levees are highest near the river and gradually decrease in height away from the channel. They are typically composed of coarser silts and sands, which decrease in particle size with increasing distance from the river. These landforms are the highest naturally occurring landscape features in the floodplain. Because they are relatively free from flooding, they offer the best environment for human settlement and development (Gagliano 1963; Heinrich 1991; Saucier 1963). Natural levees slope away from the associated stream flow into low-lying areas called backswamps. These are characterized by finer sediments (predominately clays and silty clay loams) and are frequently covered with standing water, at least some part of the year. Because of this frequent inundation and the associated poorly drained soils, the backswamps are not well suited for habitation or agricultural activities.

Under natural conditions, the Mississippi River seasonally topped its banks during spring floods. All but the highest spots along the natural levee ridges were flooded at those times. While these flood periods may have driven occupants to high ground, they served to provide nutrients to the swamps, marshes, and soils along the natural levee. During the historic period, riverine flooding of the area has largely been contained by man-made levees that line the banks of the Mississippi River. Failures of those levees, however, occurred with some frequency during the nineteenth and early twentieth centuries. These failures, often

caused by caving along the river bank, were referred to as crevasses and often led to catastrophic, localized flooding.

Crevasses also occurred along the natural levee prior to the construction of artificial levees. Research conducted for the current project found that a series of crevasses occurred in the natural levee in and immediately around the project area during the 1760s and 1770s, some of which were quite substantial (e.g., Gauld 2010 [1778]; Ross 2010 [1772]) (see Chapter 4 for details). Indeed, in 1774 it was found that one of those crevasse channels carried 13 ft of water while Bayou Manchac held no more than 13 inches (Peter Chester in Padgett 1943:10-11). While these crevasse channels were apparently dammed by the 1810s (Poussin 1817), they were still quite recognizable to early map makers.

One of those eighteenth century crevasses, possibly the aforementioned channel, was located along the section line dividing Sections 21 and 22, Township 10 South, Range 2 East (Figure 2-1). Though partially channelized, the remnants of that crevasse channel are still extant and extend into the eastern perimeter of the project area. That channel now drains an impounded slough that passes through the project area on a north-south axis. Cartographic regression analyses and archival research indicate that the east bank of that slough formed the eastern shore of the active Mississippi River channel as late as 1830 (e.g., Rightor 1831; USGS 1939) (see Chapter 4 for details). Hence, most of the project area lay within the Mississippi River channel well into the historic period (see Figure 2-1). While lying within the limits of the river channel, it is unclear if the project area was then open water or if it was low-lying, flood-prone batture cut through by old crevasse channels and sloughs. Regardless, the project area was not considered to be habitable in 1829–1830. The river, however, abruptly shifted course in this area during the 1830s, 1840s and early 1850s, resulting in land accretion in the project area vicinity at the rate of 40 acres per annum (Humphreys and Abbott 1858). As a result, cartographic regression analysis indicates that development was possible in the project area by about 1847. Hence, most of the land surface of the project area was non-extant until circa 1840 while the remainder was subject to flooding through the late eighteenth century.

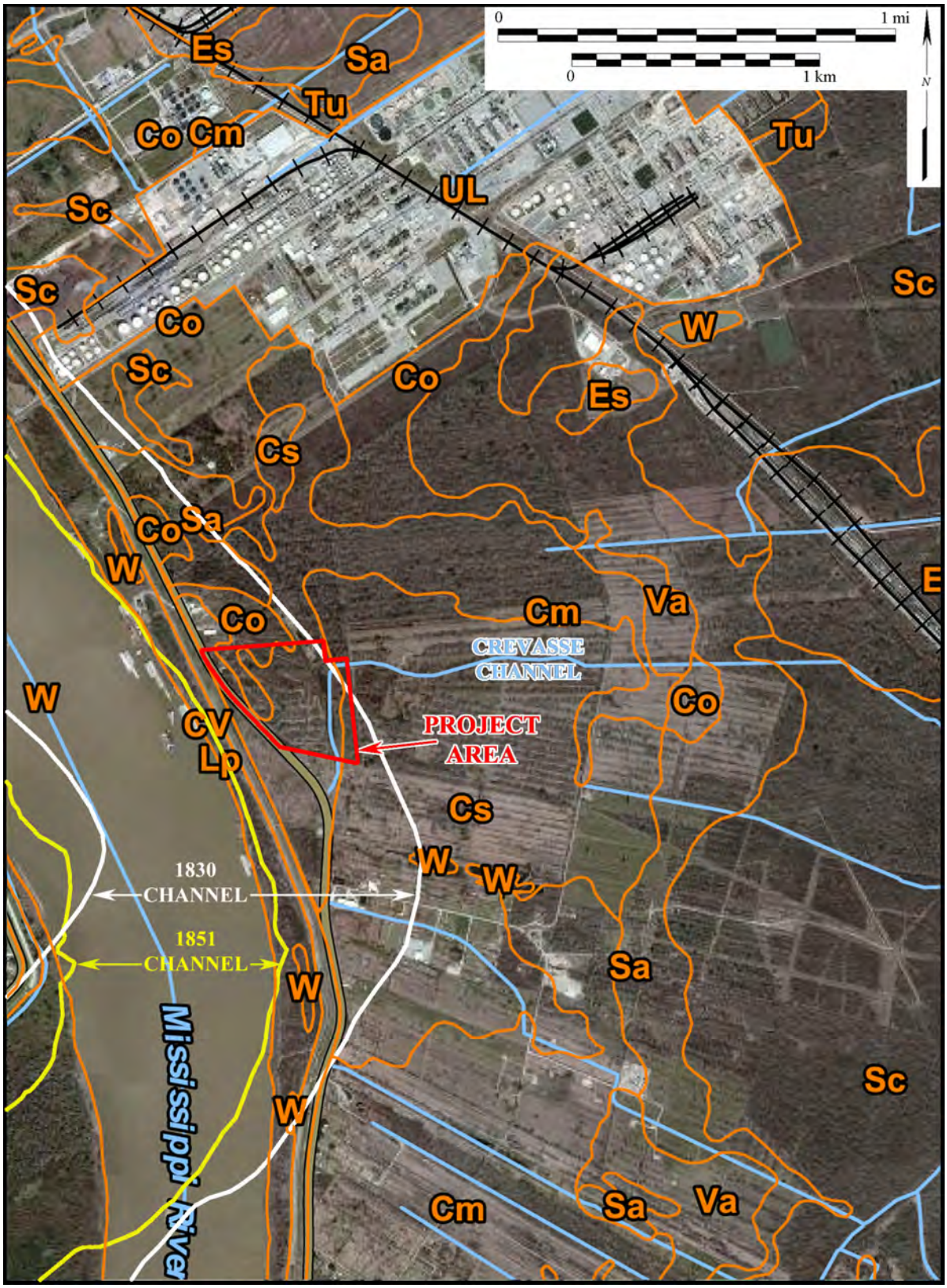

Figure 2-1. Soils present in the project area and vicinity (Natural Resources Conservation Service [NRCS] 2014). Note the limits of the Mississippi River channel in 1830 (white) and 1851 (yellow). Also note that at least one crevasse channel extended into the project area.

Soils

The Mississippi River is the most dominate factor in the formation of land in coastal Louisiana. Soils carried downstream and deposited along the banks of the river form its natural levees. These levees are typically comprised of relatively coarse-grained sediment deposits, finer soils are typically deposited behind the natural levees to form adjacent swamps and marshes. Situated very near the Mississippi River channel, most of the soils in the project area have been classified as relatively coarse-grained Commerce silt loams (Cm) (see Figure 2-1). Soils in the northwestern portion of the project area, however, have been classified as somewhat finer Commerce silty clay loams (Co) while those located east of the slough are Convent silt loams (Cs) (Natural Resources Conservation Service [NRCS] 2015; Spicer et al. 1976).

Commerce series soils formed in silty alluvium on the high and intermediate positions of natural levees and are somewhat poorly drained and moderately slowly permeable. Typically, Commerce silt loams (Cm) in this area are marked by 0 to 18 cm of dark grayish brown (10YR 4/2) silt loam overlying a grayish brown (10YR 5/2) silty clay loam to a depth of 56 cmbs. Below that are grayish brown (10YR 5/2) silt loams to a depth of 160 cmbs. Commerce silty clay loams (Co) are very similar, though marked by a silty clay loam between 0 and 25 cmbs and silt loam to a depth of 97 cmbs. Below that are stratified deposits of very fine sandy loam through silty clays to depths of 152 cmbs. Often mottled as well, Commerce series soil deposits tend to be friable rather than blocky (NRCS 2015; Spicer et al. 1976:10-11).

Convent silt loams (Cs) within the project area are limited to that area east of the slough and represent older deposits than those west of the slough. Convent soils are somewhat poorly drained and are moderately permeable. Slightly more coarse-grained than the other soils of this area, Convent silt loams are composed of 0 to 36 cm of dark grayish brown (10YR 4/2) silt loam overlying grayish brown (10YR 5/2) very fine sandy loam to a depth of up to 91 cmbs. Below that are grayish brown (10YR 5/2) silt loams with oxidation to depths of 193 cmbs. Like the Commerce series, Convent series soils are friable rather than blocky (NRCS 2015; Spicer et al. 1976:11-12).

Flora and Fauna

Agriculture, as well as later residential development, has effectively eliminated much of the mixed hardwood forests that once dominated the natural levee ridges. Vegetation, like the soils, tends to vary with elevation and distance from the river. The batture soils, fluctuating in moisture content as a result of regular, sustained flooding, are typically dominated by willow (*Salix nigra*) and other water-tolerant hardwoods, including cottonwood (*Populous deltoides*), sweet gum (*Liquidambar spp.*), and sycamore (*Platanus occidentalis*). Natural levees and abandoned point bars, less subject to long periods of flooding, support live oak (*Quercus virginiana*), magnolia (*Magnolia spp.*), hickory (*Carya cordiformis* and *Carya alba*), pecan (*Carya illinoensis*), and sweet gum (*Liquidambar styraciflua*) (Kniffen and Hilliard 1988:79). Backswamp deposits, freshwater and brackish marshes, and estuarine waters form the interdistributary basins between the present Mississippi River levees and the Gulf of Mexico to the east.

The variety of fauna within the region predictably coincides with the availability of water and stands of hardwood timber, as well as the degree of urban and industrial development. Because the natural levee near the project area was historically cleared for residential properties and agricultural fields, much of the indigenous wild life, specifically large herbivores and predators, have either been driven out or substantially reduced in number. Mammals common to the area include deer (*Odocoileus virginianus*), rabbit (*Sylvagus spp.*), squirrel (*Sciurus spp.*), raccoon (*Procyon lotor*), fox (*Urocyon spp.*), opossum (*Didelphus virginiana*), and skunk (*Mephitis mephitis*).

A number of birds also have been found historically in the study area. Taxa that were probably important food sources for the early inhabitants were mourning dove (*Zenaidura macroura*), wood duck (*Aix sponsa*), mallard duck (*Anas platyrhynchos*), herons and egrets (*Ardeidae*), blue or snow goose (*Chen caerulescens*), turkey (*Meleagris gallopavo*), and the now-extinct passenger pigeon (*Ectopistes migratorius*).

The Mississippi River and some of its tributaries have historically provided an important source of fish and other aquatic fauna, as they still do in the modern era. Taxa that

are commonly consumed include blue catfish (*Ictalurus furcatus*), channel catfish (*I. punctatus*), flathead catfish (*Pylodictis olivaris*), alligator gar (*Lepisosteus spatula*), bowfin (*Amia calva*), freshwater drum (*Aplodinotus grunniens*), largemouth bass (*Micropterus salmoides*), bream (*Lepomis spp.*), buffalo (*Ictiobus spp*.), and sturgeon (*Acipenseridae*). Reptiles commonly found in the study area are snapping turtles (*Chelydridae*), eastern box turtle (*Terrapene carolina*), cooters and sliders (*Pseudemys spp*.), softshell turtles (*Apalone spp*.), and alligators (*Alligator mississippiensis*).

Climate

All of Louisiana is located within an area of humid subtropical climate that characterizes the Southeastern United States (Trewartha 1970:12-13; Lee et al. 2000:4). The present climate of the project area is marked by long, hot and humid summers, although coastal areas are cooled by breezes off of the Gulf of Mexico. The average summer temperature is 81° Fahrenheit with an average daily maximum of 90° Fahrenheit. The average winter temperature is 54° Fahrenheit with an average daily minimum of 44° Fahrenheit (Lee et al. 2000:4). The area has a long growing season ranging from 280 to 320 days (Kniffen 1968:21). Winters are generally mild and warm with rare snow and occasional intrusions of Arctic air from Canada. There are few killing frosts.

CHAPTER 3

CULTURAL SETTING

Prehistory

This section will provide information on our current understanding of the cultural chronology of southeast Louisiana in the prehistoric and contact periods. As much of this information has been presented previously (Jeter et al. 1989; Rees 2010), only a brief synopsis is provided here. Figure 3-1 provides the current chronological framework of the prehistory of the Louisiana coastal zone based on Weinstein and Kelley (1992). Although prehistoric occupation of the region likely began during the Paleo-Indian period between 10,000 and 8,000 B.C., the landform that comprises the project area is much younger. Indeed, it is possible that the current land surface was not formed until the 1700s. Located in a geomorphologically dynamic area, the project area fronts Sections 21, 22 and 23 (and possibly Section 24) of Township 10 South, Range 2 East, Southeastern District of Louisiana, East of the Mississippi River.

Paleo-Indian Period, Prior to 6000 B.C.

Initial human occupation of this region occurred in the Paleo-Indian period. Archaeological evidence from other portions of North America suggests that the populations involved were probably small bands of hunter-gatherers adapted to terminal Pleistocene or very early Holocene environments. The early portion of the period is characterized by the widespread fluted-point tradition generally dated prior to 8500 B.C. Gagliano (1963:112) noted that a few of these points, resembling the Clovis type, have been found in the parishes north of Lake Pontchartrain, and that they are generally made of exotic materials.

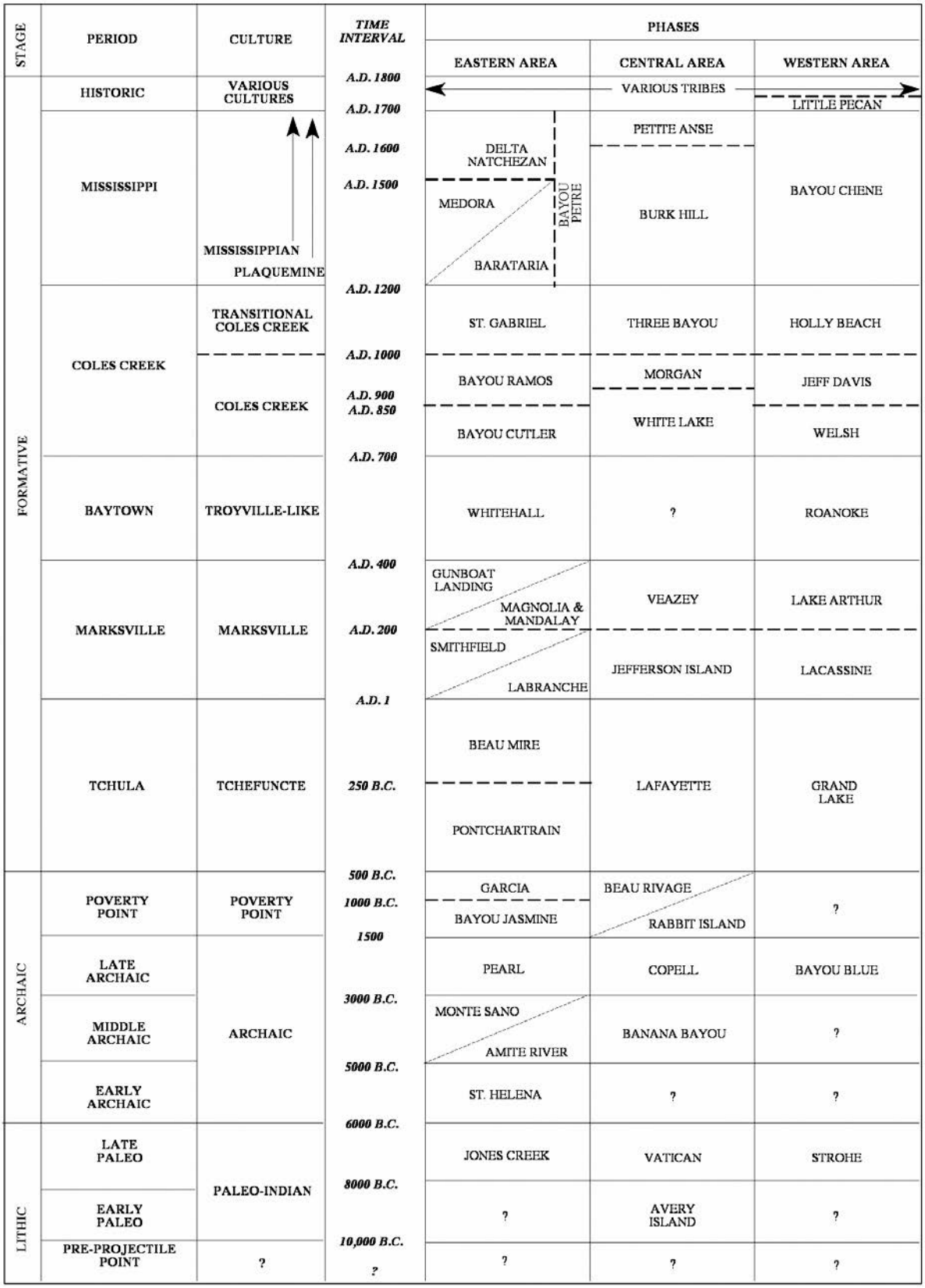

Figure 3-1. Prehistoric culture chronology for coastal Louisiana.

The latter portion of the Paleo-Indian period is marked by the divergence of the fluted-point tradition into distinct subtraditions. One of these includes Dalton and related projectile points found widely throughout the southeast and midwest. Goodyear (1982) has argued that the Dalton horizon dates from approximately 8500 to 7900 B.C. (Jeter et al. 1989:75-81) suggest a slightly later ending date of 7500 B.C., and that it represents an adaptation to the changing environments found at the end of the Pleistocene. One indication of this is the addition of a heavy woodworking tool, the Dalton adz, to an otherwise Paleo-Indian tool kit. A related complex found primarily in northern Louisiana, eastern Texas and southern Arkansas includes the San Patrice point, an associated side-notched point, and the distinctive "Albany Scraper" (Webb et al. 1971). Within southeast Louisiana, Weinstein et al. (1977) have proposed the Jones Creek phase based on finds of Plainview, Dalton and San Patrice points at the Jones Creek (16EBR13) and Blackwater Bayou (16EBR33) sites in East Baton Rouge Parish.

Early Archaic Period, 6000–5000 B.C.

In much of eastern North America, the Early Archaic period represents a time of adaptation to the changing environments associated with early post-glacial climatic regimes. The available palynological evidence indicates that the present region lies beyond the southern boundary of boreal forest expansion, suggesting that the transition to Holocene climatic conditions may have been much less marked here than further north. While there is a distinct technological break with the earlier fluted-point tradition during this period, there are obvious continuities with transitional complexes such as San Patrice. The side-notched point style that appeared in the latter becomes one of the marker traits of the Early Archaic. These projectile points are referred to by a number of names throughout the southeast, including Big Sandy, Cache River and Geneill. Corner-notched types such as Palmer and Jude developed during this period, as did stemmed types such as Kirk and Hardin. In southeast Louisiana Weinstein et al. (1977) proposed the St. Helena phase based on surface finds of Kirk and Palmer points in St. Helena parish and adjacent parishes north of Lake Pontchartrain.

Middle Archaic Period, 5000–3000 B.C.

The Middle Archaic period is characterized by widespread regional differentiation of cultures, and a number of developments in ground stone technology. The latter includes grooved axes, atlatl weights and pendants, as well as more extensive use of grinding stones, which first appeared in the previous period. This period also roughly corresponds with the Hypsithermal Interval, which brought increased warmth and aridity to areas bordering the Great Plains (Wood and McMillan 1976). The impact of this climatic shift on other portions of the Southeast is not well known at present. It may be that the intensive shellfish collecting evidenced at some riverine sites of this period represents a response to this change (Lewis and Lewis 1961:20). Stoltman (1978:714-715) has also suggested that plant collecting increased in importance during this time.

There are also indications of increased sedentism and more complex social organization during this period in the form of increased site size, midden development, the use of storage pits, utilization of local raw materials, and an increase in the number of burials (Jeter et al. 1989:86). Additionally, evidence of Middle Archaic mound building has been found at several sites in southeast Louisiana (Gibson and Shenkel 1989; Saunders 1994). The function of these mounds among what are thought to have been hunting and gathering societies is unclear; although one site, Monte Sano Bayou (16EBR17), contained what may be cremation burials (Saunders 1994:121).

Two Middle Archaic phases have been identified in southeast Louisiana. The Amite River phase, proposed by Gagliano (1963:114) on the basis of sites along the middle Amite River, is perhaps the earlier of the two. This phase is characterized by projectile point types such as Morhiss, Shumla, Wells, and Kent. The Monte Sano phase was initially defined on basis of salvage excavations conducted by William Haag and James Ford at the Monte Sano Bayou site in 1967. Two low mounds were present at the site, which was located on the edge of a Pleistocene terrace overlooking the Mississippi River in north Baton Rouge. Beneath the larger mound a square structure about 9.8 m on a side had been built on the pre-mound surface. A small rectangular platform mound was later constructed over this structure. The

surface of this mound exhibited evidence of intense heat and contained two deposits of what may be cremated remains. A radiocarbon date of 6220 ± 140 was obtained from one of the deposits (Saunders 1994:121). Artifacts associated with the mounds include Archaic dart points, microlithic tools, and a red jasper locust effigy bead. Since that time other mound sites in this region, including Hornsby (16SH21) and the LSU Campus mounds (16EBR6) have yielded similar early dates.

Late Archaic Period, 3000–1500 B.C.

Research elsewhere in eastern North America suggests that the Late Archaic period was a time of marked population increases and the beginning of extensive trade networks. The evidence for the former is seen in the appearance of large habitation sites such as Indian Knoll, Kentucky (Webb 1946), while the latter is reflected in the exotic raw materials that occur at some sites. Cultivation involving several native seed plants, including sumpweed, chenopod, and sunflower, as well as squash, which is now thought to have been independently domesticated in eastern North America, also began during this period (Smith 1989).

The only Late Archaic phase identified in southeast Louisiana to date is the Pearl River phase, which is based on material from a series of oyster shell middens located near the mouth of the Pearl River (Gagliano 1963:116). The diagnostic artifacts associated with this phase include Kent, Pontchartrain, Macon, Hale and Palmillas projectile points and various types of atlatl weights.

Poverty Point Period, 1500–500 B.C.

In much of eastern North America this time interval witnessed a transition from Archaic hunting and gathering cultures to Woodland cultures characterized by food production, pottery manufacture, and mound building (Stoltman 1978:715-717). Current interpretations suggest that these three features have different and possibly unrelated origins. As noted above, tropical domesticates had reached the East prior to 2000 B.C., and there is

good evidence of cultivation of native seed plants in the Kentucky and Ohio area by 1000 B.C. (Struever and Vickery 1973). Ceramics probably appeared somewhat earlier than this in the third millennium B.C. along the Atlantic Coast (Stoltman 1978:715), and mound building may have developed independently in several areas by 1000 B.C.

In the Lower Mississippi Valley, this transition is marked by the development of the distinctive Poverty Point culture. Among the material characteristics of this culture are baked clay balls or Poverty Point objects, microlith and lapidary industries, and earthworks (Webb 1982). Pottery is not abundant, but fiber-tempered and sand-tempered wares have been found at several sites. Subsistence data are, in general, few, but they suggest a continuation of an Archaic pattern of intensive collecting of wild plants and animals. However, there is mounting evidence for the cultivation of a tropical domesticate, squash, at Poverty Point sites (Ford 1974; Jackson 1986; Shea 1978).

Two Poverty Point period phases have been identified in southeast Louisiana. The earlier Bayou Jasmine phase is based on data from the Bayou Jasmine site (16SJB2) in St. John the Baptist Parish and the Linsley site (16OR40) in Orleans Parish (Gagliano 1963:116). Both of these sites are *Rangia* shell and earth middens located on abandoned distributary channels of the St. Bernard delta. Poverty Point objects have been recovered from both sites, and Linsley yielded a radiocarbon date of 3540 $\pm$ 120 B.P. (Gagliano 1963:116). The succeeding Garcia phase is based on data from the Garcia site (16OR34), a *Rangia* midden located near the eastern end of Lake Pontchartrain. One of the distinctive features of the material from this site is the extensive microlith industry.

Tchula Period, 500 B.C.–A.D. 1

This period in the Lower Mississippi Valley is characterized by the integration of food production, pottery manufacture, and mound building into a single cultural system. In the southern portion of the valley these developments take place in an archeological culture called Tchefuncte. Originally defined in southern Louisiana (Ford and Quimby 1945), Tchefuncte culture is now recognized to extend as far north as the vicinity of Clarksdale,

Mississippi, and as far west as northeast Texas. The diagnostic artifacts of this and most of the succeeding prehistoric cultures of the Lower Mississippi Valley are distinctive ceramics. Tchefuncte pottery is characterized by a laminated paste that appears to lack tempering. Replication studies suggest that the laminated texture is simply the result of minimal preparation of the raw material (Gertjejansen and Shenkel 1983), an expected feature of an incipient ceramic technology. Other diagnostic attributes of Tchefuncte ceramics include the use of podal supports and decorative techniques such as jab-and-drag incising.

The evidence for food production in Tchefuncte culture presently comes from one site, Morton Shell Mound (16IB3), where remains of two tropical cultigens–squash and bottle gourd, and one possible native cultigen, knotweed–were recovered (Byrd and Neuman 1978:11-13). Given the limited nature of these findings, the importance of cultivation in relation to the remainder of the subsistence base is still uncertain. Mound construction, now well documented for the preceding periods, is surprisingly not clearly associated with Tchefuncte culture. Alan Toth (1988:27-28) reviewed the evidence for Tchefuncte burial mounds and suggested that they are the result of diffusion of certain aspects of Marksville burial practices among a few late Tchefuncte groups. Further research is required to verify this hypothesis.

Two Tchula period phases have been identified in southeast Louisiana. One, the Pontchartrain phase, is based on Ford and Quimby's (1945) early work at sites around Lake Pontchartrain, including the Tchefuncte site (16ST1), Big Oak Island (16OR6), and the Little Woods sites (16OR1-5). It includes occupations that probably span the entire period and eventually should be subdivided. The other phase, Beau Mire, is based on research by Weinstein and Rivet (1978) at the Beau Mire site (16AN17) in Ascension Parish. This phase is thought to date to the latter portion of the period.

Marksville Period, A.D. 1–400

In many parts of eastern North America this period is marked by evidence of extensive interregional contact through a phenomenon labeled the Hopewell Interaction Sphere (Caldwell and Hall 1964). The focal points of this interaction sphere were societies

in the Ohio and Illinois River valleys which acquired large quantities of exotic raw materials, including obsidian, copper, mica, shark's teeth, and marine shells, in exchange for specialized finished goods such as copper panpipes and ear spools (Stoltman 1978:721). Various theories have been offered to explain the nature of this interaction, some emphasizing socioreligious systems and others pointing to economic networks, but the problem remains unresolved. Within the Lower Mississippi Valley, the culture that participated in this interaction sphere is termed Marksville.

Toth (1988:211-213) has argued that Marksville culture developed out of Tchefuncte as a result of intermittent contacts with cultures in the Illinois River valley area, but he only speculates on the nature of these contacts. He emphasizes that the evidence for Hopewellian interaction is largely limited to the Marksville mortuary system and aspects of ceramic decoration. Other cultural subsystems, such as subsistence and settlement pattern, may have changed very little. Economic data from Marksville sites are extremely limited, but information from contemporary occupations in the Midwest suggests a pattern of intensive collecting of wild plant foods and high density faunal resources, such as fish, supplemented by cultivation of native North American seed plants and a few tropical cultigens (Asch et al. 1979). Present evidence indicates that maize was either not present at this time or of only minor importance.

Two Marksville period phases, Labranche and Gunboat Landing, have been defined in the vicinity of the present project. Labranche was set up by Phillips (1970:898) on the basis of collections from sites around Lake Pontchartrain, including Big Oak Island, Bayou Labranche Mouth (16SC11), and Bayou Trepagnier (16SC10). Based on the presence of an early variety of Marksville Stamped, the phase is thought to date to the early portion of the period. Gunboat Landing is a late Marksville phase proposed by Weinstein et al. (1977) on the basis of Weinstein's (1974) excavations at several sites on the lower Amite River.

Baytown Period, A.D. 400–700

The period following the Hopewellian florescence has been characterized as a time of cultural decline throughout much of eastern North America (Griffin 1967:187). This is

certainly implied in Phillips' (1970:901) statement that ceramic decoration was "at a remarkably low ebb" during this period in the Lower Mississippi Valley. Recently, however, a number of researchers have suggested that the apparent decline may not have been as pervasive as previously believed. In the Midwest, Braun (1977) and Styles (1981) have argued that this period, in contrast to earlier interpretations, was a time of population growth and increased regional social integration. Along the Florida Gulf coast an elaborate culture called Weeden Island developed during this time (Milanich 1994). Even in the Lower Mississippi Valley, new data indicate that the Baytown period was marked by the appearance of two painted pottery complexes (Belmont and Williams 1981).

Troyville culture dominates the southern half of the Lower Mississippi Valley during this time period, from the northern Tensas and southern Yazoo basins down to the Gulf of Mexico (Belmont 1967; Kidder and Wells 1992). Troyville ceramics are characterized by the persistence of certain Marksville types such as Marksville Stamped, Marksville Incised, and Churupa Punctated, but in more "broken-down" varieties, such as *Bayou Rouge, Anglim*, and *Watson*. The appearance of Mulberry Creek Cord Marked, Larto Red Filmed, and early varieties of Coles Creek Incised and French Fork Incised is also seen during this period, the last two foreshadowing the arrival of Coles Creek culture.

Changes were also occurring in the stone tool tradition during this period. Small arrow points began to replace dart points, reflecting a transition from the atlatl to the bow and arrow. Subsistence data from the Lower Mississippi Valley are limited for this period, but in the Midwest, Styles (1981) has identified a pattern of intensive, localized collecting of wild plant and animal resources supplemented by increased cultivation of both North America and tropical cultigens. Mound building continued in the Baytown period, and there are indications that a shift from a mortuary function to a building substructure began toward the end of this time (Rolingson 1982).

The Troyville-like culture present on the Louisiana coast during Baytown times is poorly understood. To date, most sites yielding examples of painted pottery on a Baytown Plain paste have been assigned to this time frame. The Whitehall phase, named for the

Whitehall site (16LV19) on the Amite River (Phillips 1970; Weinstein 1974), is presently the only phase identified in the vicinity of the present project area.

Coles Creek Period, A.D. 700–1200

Elsewhere in eastern North America this time interval corresponds to the latter portion of the Late Woodland period and the beginning of the Mississippi period. Within the Lower Mississippi Valley, a cultural florescence that shows a marked resemblance to Weeden Island culture of northwest Florida occurs during this period. The precise nature of the relationship of Coles Creek culture to Weeden Island is uncertain, but the similarities in ceramic decoration and community pattern are unmistakable. Both were characterized by the use of incised, stamped, and punctuated pottery types in which the decorative zone is largely restricted to a band around the rim of the vessel, and by the construction of small platform mounds around plazas. The latter are generally interpreted as an indication of the development of stratified social systems during this period. These societies were apparently based on economies that included the cultivation of maize. While direct evidence for this is lacking from sites in the Lower Mississippi Valley, the remains of corn have been recovered from Weeden Island sites (Milanich 1994:200) and from contemporary Late Woodland sites in the Midwest (Styles 1981).

Three sequential Coles Creek phases (Bayou Cutler, Bayou Ramos, and St. Gabriel) are currently recognized for southeast Louisiana. The earliest of these, the Bayou Cutler phase (A.D. 700–850), was formally defined by Phillips (1970:920-923) based primarily on work by Kniffen (1936). This phase is defined materially by many of the same artifact types noted for contemporary phases to the north, as well as several unique to the area. Present are many of the so-called "classic" Coles Creek markers: Coles Creek Incised, *vars. Coles Creek, Serentz, Dozier, Wade*, and *Athanasio*; Mazique Incised, *vars. Back Ridge* and *Sweet Bay*; Pontchartrain Check Stamped, *var. Pontchartrain*; and French Fork Incised, *vars. French Fork, Brashear, Wilzone,* and *Larkin*. The popularity of red-filmed pottery waned in this period, and plainwares became somewhat thinner and finer than in preceding periods. Decoration again was largely restricted to the upper third of the vessel, although *var.*

Pontchartrain is an all-over decorated variety, perhaps accounting for its large numbers in many collections.

The succeeding Bayou Ramos phase was proposed by Weinstein et al. (1978) using data from the Bayou Ramos I site (16SMY133). This is a late Coles Creek phase, defined by typical middle to late Coles Creek markers such as Coles Creek Incised, *var. Mott*; Mazique Incised, *var. King's Point*; Beldeau Incised, *var. Beldeau*; Avoyelles Punctated, *var. Avoyelles*; and Pontchartrain Check Stamped, *vars. Tiger Island* and *Crawford Point*.

The terminal Coles Creek St. Gabriel phase was set up by Brown (1985) on the basis of data uncovered by Woodiel (1980) from the type site (16IV128) in Iberville Parish. Markers for this phase include Coles Creek Incised, *vars. Hardy* and *Hilly Grove*, Mazique Incised, *var. Manchac*, Evansville Punctated, *var. Wilkinson*, Harrison Bayou Incised, *vars. Harrison Bayou* and *Bunkie*, and minor quantities of Plaquemine Brushed, *var. Plaquemine*.

Mississippi Period, A.D. 1200–1700

The last prehistoric period in eastern North America witnessed the development of chiefdom-level societies based on intensive cultivation of maize, beans, and squash. Perhaps the most dynamic of these societies appeared in the Middle Mississippi Valley between A.D. 900 and A.D. 1050. Referred to as Mississippian culture, it was characterized by a shell-tempered ceramic industry and a settlement pattern including large mound centers and nucleated habitation sites that were often fortified (Stoltman 1978:725). During the first centuries of the second millennium A.D., this culture spread rapidly along the major river valleys of this portion of the continent. The nature of this expansion, either by movement of people or diffusion of ideas, is still debated, but by A.D. 1200 Mississippian culture was found as far south as northern Mississippi and as far east as Georgia.

In the Lower Mississippi Valley, Mississippian culture encountered an indigenous non-Mississippian culture, and a hybridization of the two occurred. Phillips (1970) considered the resident culture to have been Plaquemine, an outgrowth of Coles Creek culture, which began about A.D. 1000. He viewed the interaction between Mississippian and

Plaquemine culture as resulting in gradual changes in the Plaquemine ceramic tradition and settlement pattern. Later in the period, after A.D. 1400, an actual intrusion of Mississippian groups displaced the resident Plaquemine groups. Brain (1978) offered a somewhat different interpretation of this sequence of events. He argued that the Lower Mississippi Valley culture that experienced the initial Mississippian contact about A.D. 1200 was Coles Creek, and that the resulting hybridization produced Plaquemine culture. The remainder of the period saw a gradual increase in Mississippian influence, at least in the Yazoo Basin, until about A.D. 1400 when a full Mississippian cultural pattern was achieved in the Lake George phase (Brain 1978:362; Williams and Brain 1983). Brain's reinterpretation of the cultural sequence has resulted in a shift in the established chronologies. Phases such as Crippen Point and Preston, which were formerly considered Plaquemine culture manifestations of the early Mississippi period, are now placed late in the Coles Creek period and assigned to a transitional Coles Creek culture. The latter now persists until A.D. 1200 and includes a number of changes in ceramic technology that had previously been considered indicators of Plaquemine culture. If Brain is correct, then Plaquemine culture throughout the Lower Mississippi Valley should postdate A.D. 1200 and presumably appear at progressively later times at increasing distance from the Yazoo Basin.

While disagreeing somewhat on the origin of Plaquemine culture, all authorities concur that it exhibited numerous continuities with the preceding Coles Creek culture. Several of the Plaquemine ceramic types appear to be direct outgrowths of Coles Creek types. However, there are some changes, including the addition of small amounts of finely ground shell and other organic matter to the pottery and the extension of the decorative field to include the body of the vessel. Mound construction continued on an even greater scale than in the previous period. The mounds became larger, there were more at each site, and there were more sites. Intensive agriculture is presumed to be the economic base on which this florescence was built, but there is presently little direct evidence of it in the Lower Mississippi Valley.

Several regional phases of early Plaquemine culture have been identified in southern Louisiana (see Figure 3-1). Sites near the western end of the present project area have been

assigned to the Medora phase, established by Gagliano (1967) on the data supplied by Quimby (1951) from the WPA-era Medora site (16WBR1) excavations in West Baton Rouge Parish. Medora is, in fact, the type site of the entire Plaquemine culture, and typical ceramics include: Plaquemine Brushed, Coles Creek Incised, *var. Hardy*; Mazique Incised, *var. Manchac*; L'eau Noire Incised; Medora Incised; Anna Incised, *vars. Australia* and *Evangeline*; and Pontchartrain Check Stamped.

Near the eastern end of the present project area, another regional phase, Bayou Petre has been identified. Formally defined by Phillips (1970), from Kniffen's 1938 collections in St. Bernard and Plaquemine Parishes, it is thought to represent intrusive peoples or ideas from the northeastern Gulf Coast. The ceramic assemblage at Bayou Petre phase sites is dominated by material that bears a distinct resemblance to the shell-tempered "Pensacola variant" ceramics of the Alabama and Florida coastal Mississippian societies, including Moundville Incised, Owens Punctated, D'Olive Incised, Mound Place Incised, Leland Incised and Pensacola Incised.

By A.D. 1500, new influences began to be felt in the Louisiana coastal zone, as aboriginal groups began to take on the appearance, at least in material culture, of the peoples encountered by the early French explorers. This late Plaquemine culture is recognized by one rather overextended phase, called Delta Natchezan. Created by Phillips (1970), this phase includes all south Louisiana sites with ceramics similar to those recorded for the protohistoric and historic Natchez. The type site for this phase is the Bayou Goula site (16IV11), the assumed location of the historic Bayogoula village, excavated during WPA days and reported on by Quimby (1957).

Principal ceramic markers of the Delta Natchezan phase include Fatherland Incised, *vars. Fatherland* and *Bayou Goula*, and those versions of Addis Plain that contain small amounts of shell, *vars. Greenville* and/or *St. Catherine* (Brain 1969; Brown 1985; Phillips 1970; Quimby 1957:121-128; Steponaitis 1974). Mazique Incised, *var. Manchac* and Plaquemine Brushed may be considered minor elements in the assemblage, as well. A small spattering of shell-tempered Mississippian sherds also was noted at Bayou Goula, principally

the types Mississippi Plain and Pocahontas Punctated. The presence of minority amounts of shell-tempered pottery at other Delta Natchezan sites, such as Isle Bonne (16JE60) and Fleming in the Barataria region (Holley and DeMarcay 1977; Gagliano et al. 1979), argue for a great deal of interaction between the resident Plaquemine peoples and the advancing Mississippians to the north and east.

European Settlement

The overview presented below is intended to provide the historical context necessary to understand and evaluate the archaeological remains encountered in the project area that are associated with the post-contact occupation of the property. Although the following discussions focus on the present project area, overriding general historical themes are presented as well.

Archaeological and archival research has revealed that by A.D. 1500 there were new cultural influences in southeast Louisiana. By this time, aboriginal groups had begun to take on the appearance, at least in terms of material culture, of the peoples encountered by early Spanish and French explorers (e.g., Giardino 1984; Phillips 1970; Swanton 1911).

Initial European Exploration, 1543

European exploration of southeast Louisiana began in 1543 when the survivors of the Spanish expedition of Hernando de Soto traveled down the Mississippi River on their way to the Gulf of Mexico. No record, however, was made detailing the presence of Native Americans during their journey through the project area vicinity. After this initial, brief Spanish contact, 140 years passed before Europeans returned to the region. Although it is possible that Native Americans resided in the area during this period, research conducted by Marco Giardino (1984) located no evidence to support such an occupation. Indeed, Giardino found that the earliest evidence of Native American occupation in the project area vicinity dated to the early eighteenth century.

French Colonial Period, 1682–1763

It was not until the late seventeenth century that the French took an interest in the lower Mississippi River Valley and exploration of the region began in earnest. In early 1682, René-Robert Cavalier, Sieur de La Salle, and a small group of French and Indian explorers passed through present-day Ascension Parish on their way to the mouth of the Mississippi River, where La Salle claimed the colony of Louisiana for France (Wall et al. 2002:21-22). La Salle, and later French accounts made by Henri de Tonti in 1686, indicate that there were a number of Native American groups residing along the lower Mississippi River and its western tributaries between Baton Rouge and the mouth of the Mississippi river. These groups came to be collectively referred to by the French as "*les petites nations*," or the "Small Tribes" (Caillot 2013:127; Swanton 1911:299). Among "*les petites nations*" at the onset of French exploration of the project area vicinity were the Quinipissa, Mugulasha, and the Bayagoula (Figure 3-2). These groups certainly passed through and probably hunted the lands contained in the project area vicinity, but there is no evidence that they actually resided there (e.g., Caillot 2013; Giardino 1984; Swanton 1911). Also nearby were the Ouacha, Chaouacha, and Chitimacha. Most of these groups had already experienced rapid depopulation prior to direct contact with Europeans because of European introduced diseases and intertribal warfare. Later arrivals in the area include the Houma, Colapissa and Alibamon.

In February 1699, shortly after his arrival in the colony, Pierre Le Moyne, Sieur d'Iberville, met with the Bayagoula, Mugulasha and Ouacha at Biloxi, Mississippi. The following month, d'Iberville ascended the Mississippi River and encountered two canoes, one filled with Bayagoulas and the other with five Ouacha men and two women near the junction of the Mississippi River and Bayou Lafourche. Two days later, on 15 March 1699, d'Iberville landed at the present-day town of Bayou Goula. There, he found the combined village of the Bayagoula and Mugulasha (Swanton 1911:274, 279-280, 297) (see Figure 3-2).

After meeting with the Bayagoula and Ouacha in March 1699, Iberville proceeded to the area of present-day Angola, West Feliciana Parish, Louisiana. There, he found the Houma residing in dispersed villages (Figure 3-3, see also Figure 3-2). Though the main

Figure 3-2. Detail of Nicolas de Fer's (2010) 1701 *Les Costes aux Environs de la Riviere de Misisipi* depicting the locations of the "Bujogoula" (Bayagoula), "Majoutacha" (Mugulasha) and "Auma" (Houma) villages at the turn of the eighteenth century. Note the absence of Native American occupation in the project area vicinity.

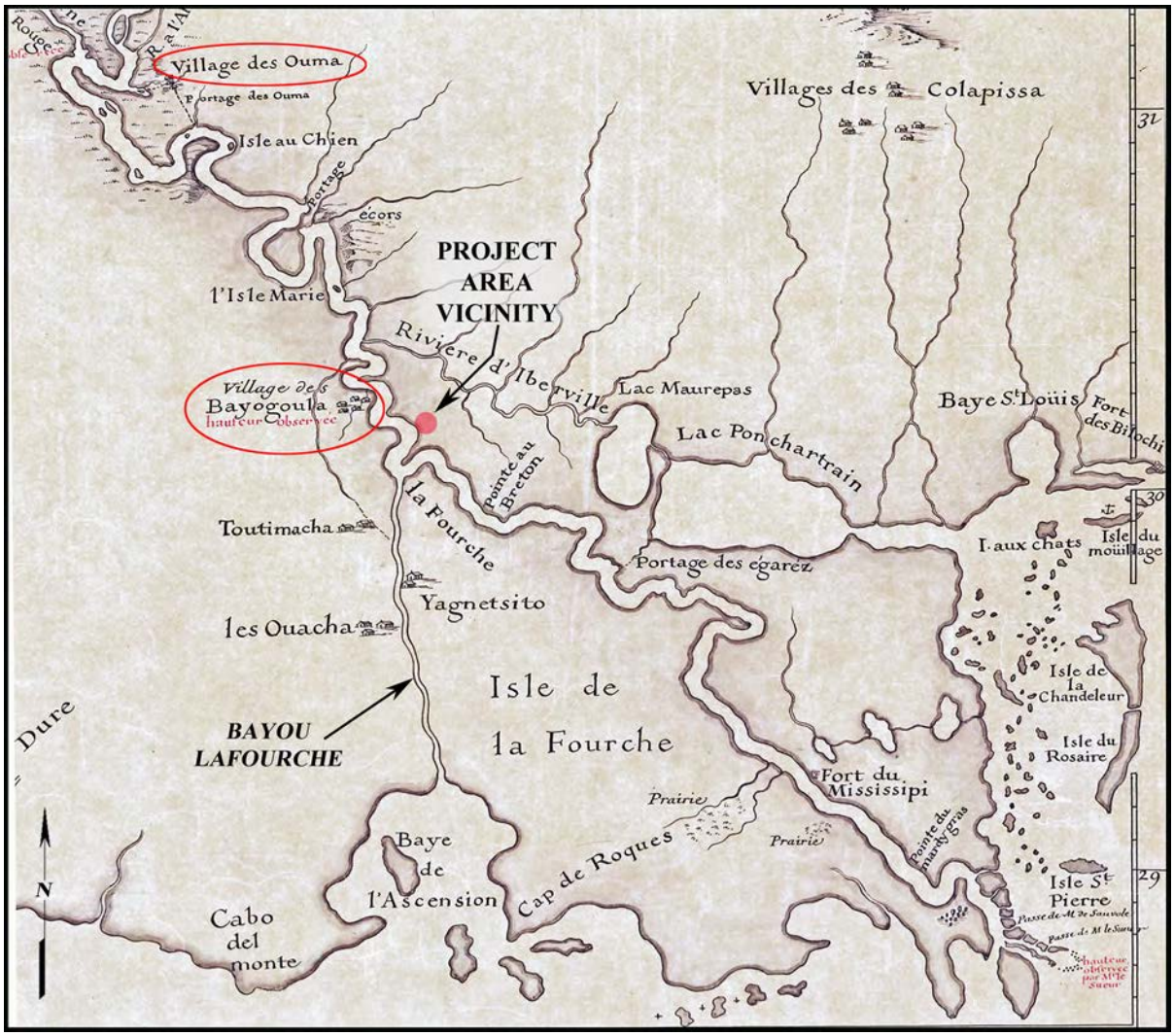

Figure 3-3. Detail of Guillaume de L'Isle's (2010) 1702 *Carte de la Rivière de Mississipi* depicting the locations of the "Village des Ouma" and "Village des Bayogoula." Note the absence of Native American occupation in the project area vicinity.

Houma village was located near Portage de la Croix, other Houma settlements stood somewhat further north, one at the juncture of Hunter Creek with the Mississippi River and one near Pond, Mississippi. Both of the latter settlements are located in what is now Wilkinson County. Although La Salle knew of the Houma in 1682, the group did not directly interact with Europeans until Tonti visited them in 1686. After visiting with the Houma in 1699, Iberville returned to the village in March 1700 only to find that half of the tribe had died from non-native diseases introduced by European explorers (Guevin 1983:57-60; Swanton 1911:189-190, 285-287).

When Father du Ru arrived at the Bayagoula-Mugulasha village in early 1700 he was impressed enough that he decided to establish a church there. The church, however, was destroyed in May 1700 when the Bayagoula massacred the Mugulusha amongst them. In 1706, the Taënsa moved in with the Bayagoula, with apparent peaceful intentions. The alliance did not last long and by August 1706, the Taënsa had massacred their hosts, not unlike the Bayagoula massacre of the Mugulasha in 1700. Taking advantage of their situation, the Taënsa then invited the Chitimacha and Yaguénéchiton to the Bayagoula village so as to share the Bayagoula's grain with them. However, instead of sharing their bounty, the Taënsa attacked the Chitimacha and Yaguénéchiton, taking a number of slaves before ostensibly returning to their own village in the vicinity of present-day Edgard, Louisiana. The few Bayagoula that survived the 1706 Taënsa massacre, meanwhile, fled downriver to seek the protection of the French (Swanton 1911:270, 278). The Bayagoula apparently remained there for only a short period of time before returning upriver to the present-day Donaldsonville area.

In the midst of the 1706 upheavals amongst Louisiana's Native Americans, the Houma moved south from Angola to the Bayou St. John area of present-day New Orleans. The reason for the move is unclear, but may have been due to a Tunica uprising similar to that of the Bayagoula and Mugulasha in 1700 and the Taënsa and Bayagoula six years later. Indeed, La Harpe described such a fate befalling the Houma at the hands of the Tunica in 1706. There are, however, conflicting accounts, and it is possible that the Houma, decimated by disease, merely abandoned their villages, which were later occupied by the Tunica.

Regardless, the Houma remained on Bayou St. John for only a short while before moving to present-day Ascension Parish. When this move occurred is unknown, but must have taken place by 1712–1713 (Guevin l983:64; Waggoner 2005:131; Swanton 1911:289-291). Indeed, François Le Maire wrote on 15 January 1714 that "sixty leagues inland [*from the mouth of the Mississippi River*], the Oumas consist of a good one hundred families; they had a Jesuit missionary at one time" (Waggoner 2005:131). Le Maire's description places the Houma in present-day Ascension Parish. Staunch French allies, the Houma may have been purposely settled in that area by the French to thwart British incursions into Louisiana. In addition, the new Houma village was strategically placed to provide food to the fledgling French colony.

According to Andre Pénicaut (in McWilliams 1953:129-130), the "Oumas deserted their settlement [*at Angola*] and came to dwell on the bank of the Missicipy [*sic*] River near the Rivière des Chetimachas" in 1709. Pénicaut, however, may have been mistaken as the Houma clearly resided on Bayou St. John for some amount of time between 1706 and 1714. Perhaps Pénicaut merely glossed over the fact that the Houma briefly resided on Bayou St. John before moving to the "bank of the Missicipy [*sic*] River" in 1709. Indeed, his statement does not preclude such an event. If so, the Houma must have been on Bayou St. John only between 1706 and 1709. It should be noted, however, that Pénicaut often provided incorrect dates in his narrative, and it remains unclear as to precisely when the Houma arrived in Ascension Parish.

When Bernard La Harpe traveled up the Mississippi River from New Orleans in 1718, he stopped at the recently established Houma village. There, he noted that the village was located on the east bank of the river 12 leagues from that of the Taënsa, which, in turn, was described as being 10 leagues above newly founded New Orleans. Consisting of 60 houses or cabins surrounding an open plaza situated one half league from the river, the village was home to about 200 men. La Harpe noted that the Houma and their families raised chickens and grew corn and beans to supplant their diet (La Harpe in Margry 1888:244-245). Based upon La Harpe's description, the Houma then resided in the present-day Burnside, Louisiana, area.

Le Page du Pratz (1758:220), who arrived in Louisiana in 1718, wrote in traveling upriver from New Orleans that the Houma were the first Native Americans that he met after leaving New Orleans and that the village was located 20 leagues above the recently established city. Intriguingly, du Pratz noted that the village dated to the first years of the colony. While it is clear that du Pratz was not referring to 1699, he may well have meant the 1718 founding of New Orleans. Regardless, with the arrival of the Houma sometime between 1706 and 1714, the area soon became commonly known as "*Les Houmas*," and the village described by La Harpe and du Pratz as the "Grand Houmas." The site of this village was located by Bryan Guevin (1983) in 1983 and recorded as archaeological site 16AN35 (see Chapter 4).

The following year, Bernard Diron Dartaguiette recorded his journey up the Mississippi River from New Orleans to Cahokia. Thirteen years later, in 1732, his notes were used to produce a manuscript map of his journey (Figure 3-4). The map depicts scattered, but relatively dense settlement between "Nouvelle orleans" and "petite Riviere des Chetimacha" (Bayou Lafourche). Some of the symbols used on the map depict obvious European-like structures, others are more suggestive of Native American housing. Only a very few of the latter are labeled, including "Les Taensas" near Edgard, "Les Colapissas sauvages" near Garyville, "Les houmas sauvages" at Burnside, and "Chetimachas" near White Castle (see Figure 3-4). Dartaguiette did not note the presence of any habitations, Native American or European, in the present project area vicinity.

At the time, the French colony of Louisiana stretched as far east as the Perdido River, where it was bound by Spanish Florida. In 1719, however, the French captured the community of Pensacola, pushing the boundary further east. That same year, the capital of Louisiana was moved from Mobile, Alabama, to Ocean Springs, Mississippi, and in 1720 to Biloxi. Following a 1722 hurricane, the French abandoned both Biloxi and Pensacola and moved their capital to New Orleans, which had been established just four years earlier (Coker 1999:14-15; French 1851:111; Wall et al. 2002:40-41).

Much of the settlement of the colony during these early years was focused on large concessions that were granted along the Mississippi River above (i.e., upriver of) New

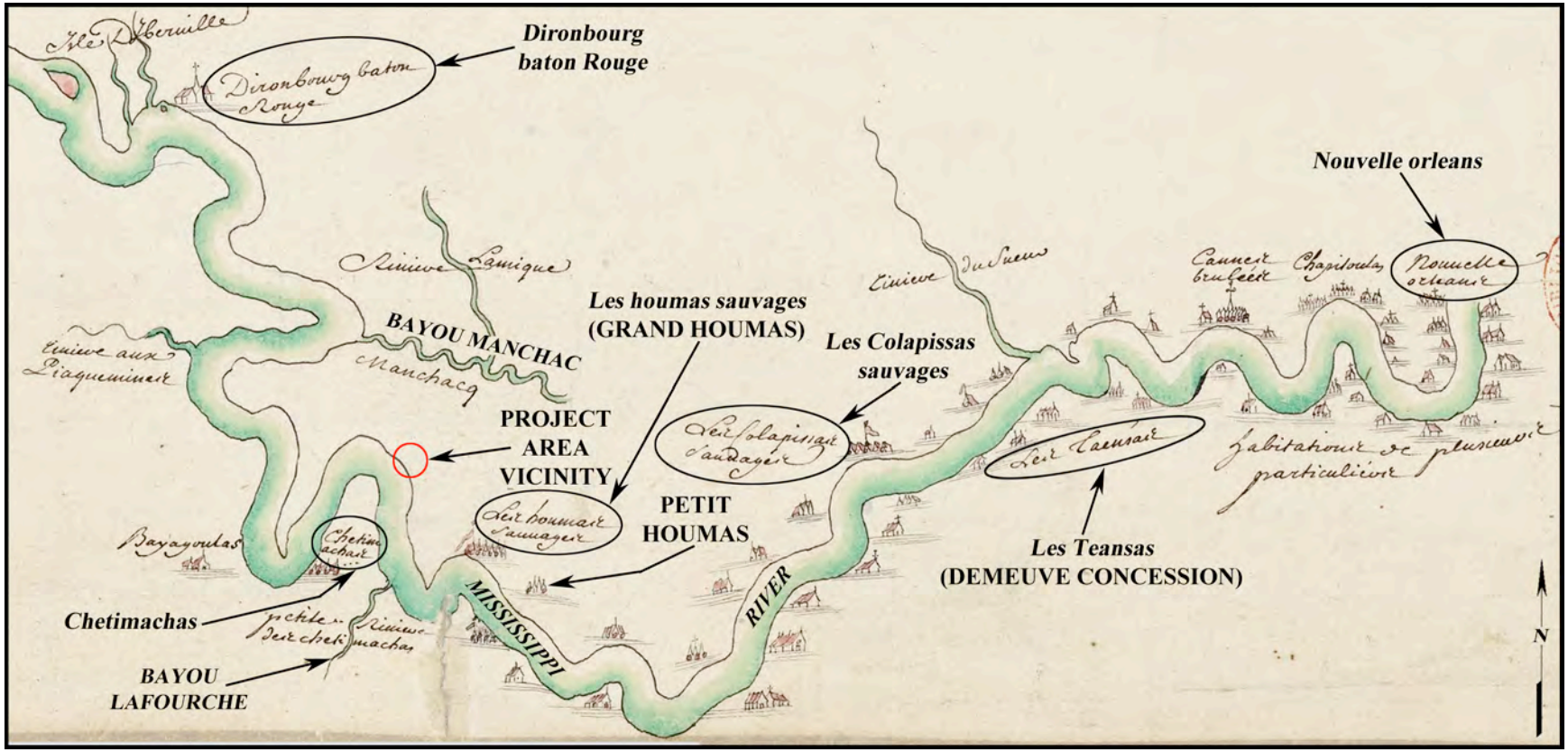

Figure 3-4. Detail of Bernard Diron Dartaguiette's (2009) 1732 manuscript map entitled *Fleuve St Louis cy devant Mississipy relevé à la boussole.* Although dated 1732, the included information is based on Dartaguiette's 1719 observations. Note the absence of Native American occupation in the project area vicinity.

Orleans. Biloxi remained largely abandoned until the late eighteenth century, and Mobile was supplanted by New Orleans in both size and commercial and political importance. While most settlers in Louisiana during this period were of French or French-Canadian descent, large numbers of Germans and Swiss were settled along the Mississippi River above New Orleans in 1721 (Maduell 1972:61; Wall et al. 2002:41-43). That area soon became known as the Côte Des Allemands and included much of present-day St. Charles and St. John the Baptist parishes.

In 1721–1722, Pierre Francois Xavier Charlevoix recorded his journey down the Mississippi River. During his trip, Charlevoix arrived at a small Houma village located on the east bank of the Mississippi River, among which there were some French houses, on 3 January 1722 (Charlevoix 1744:436). A quarter of a league further inland was a larger village, presumably the same as that noted by La Harpe in 1718. The latter village came to be known as the Grand Houmas and was located at present-day Burnside. The smaller village was likely that situated between Burnside and Union (see Figure 3-4). Collectively, they formed *Les Houmas*. Not mentioned by La Harpe, it is obvious that the French settlers arrived at *Les Houmas* between late December 1718 and late 1721.

In 1716, the French had established Fort Rosalie among the Natchez at Natchez, Mississippi (de Richebourg in Swanton 1911:203-204). Following the deaths of several pro-French Natchez chiefs between 1725 and 1728, pro-English Native American leaders took control of the tribe. Under their leadership, the Natchez destroyed Fort Rosalie and killed between 200 and 300 settlers and soldiers on 29 November 1729. Most of the 80 women and 150 slaves at Natchez were taken captive to sell to the English or other Natchez allies. In the following weeks, the Natchez were joined by the Yazoo and Koroa (Giraud 1987:398; O'Neil 1977:86; Swanton 1911:225, 229-230). Not surprisingly, fear and paranoia swept the colony and many settlers fled for the safety of New Orleans. It is quite likely that some of the French settlers of *Les Houmas* fled as well. Indeed, fear of further attacks was so strong that little settlement occurred in the region through the remainder of the French Colonial Period.

Despite this, Jean Baptiste Bourguignon d'Anville (2009) prepared a map of Louisiana in May 1732, including the present project area vicinity. Though prepared in 1732, the map was not published until 1752 under the title *Carte de la Louisiane*

(Figure 3-5). Though based upon surveys prepared by others, d'Anvilles' map is considered one of the best available maps depicting the colony during the mid-eighteenth century. D'Anville's map depicts three Houma villages. The most prominent village, labeled "*Houmas ou les Rouges*" (see Figure 3-5), was located near present-day Romeville in St. James Parish. Upriver and in a smaller font, d'Anville labeled the area around the village at Burnside-Union simply as "Houmas." D'Anville placed the third village, "*Petits Houmas*," opposite Anse Aux Carencros (now Philadelphia Point) in Ascension Parish. The latter village would have been situated immediately downriver (south) of the present project area. Not noted on other period cartographic resources (e.g., Anonymous 2009 [1732]; Broutin 2007 [1731]), the "*Petits Houmas*" may have been a very short-lived settlement. While the Houma remained at their Grand Village, most of the French settlers there had abandoned the area by late 1730s (*Louisiana Historical Quarterly* 1923:127; Reeves 2005:14).

Spanish Colonial Period, 1763–1803

As a result of the Seven Years' War (also known as the French and Indian Wars), the secret 1762 Treaty of Fontainebleau and the subsequent 1763 Treaty of Paris, Great Britain acquired the colony of Florida as well as that part of Louisiana located north of the Isle d'Orleans and east of the Mississippi from France. For her part, Spain received title to the remainder of Louisiana, including the Isle d'Orleans and the present project area. Separating the new Spanish and English colonies, in part, was Bayou Manchac, which served as an international boundary (Figure 3-6). Governance of Great Britain's new holdings in present-day Louisiana was made through Pensacola, the British capital of West Florida. The Spanish colonial capital, meanwhile, was in New Orleans (Wall et al. 2002:57-58).

With the establishment of Bayou Manchac as an international boundary, the loyalty of the Houmas and other area *les petites nations* became particularly important to the Spanish government. In March 1764, gifts were presented to the Avoyelles, Bayagoula, Colapissa, and Houma (Fuentes to Grimaldi, 9 March 1764, *Papeles Procendentes de Cuba: Commandants Correspondence* 1764–1799 [PPC], *Legajos* 2542, folio 102-8, *Archivos Generale des Indies* [AGI], as translated by Dayna Bowker Lee 1995). At the time, all four

Figure 3-5. Detail of Jean Baptiste Bourguignon d'Anville's (2009 [1752]) *Carte de la Louisiane par le Sr. D'Anville Dressée en Mai 1732*. Note that d'Anville portrayed the primary Houmas village at present-day Romeville as well as two smaller villages, one at Union and one near Geismar. The latter village was located near the present project area.

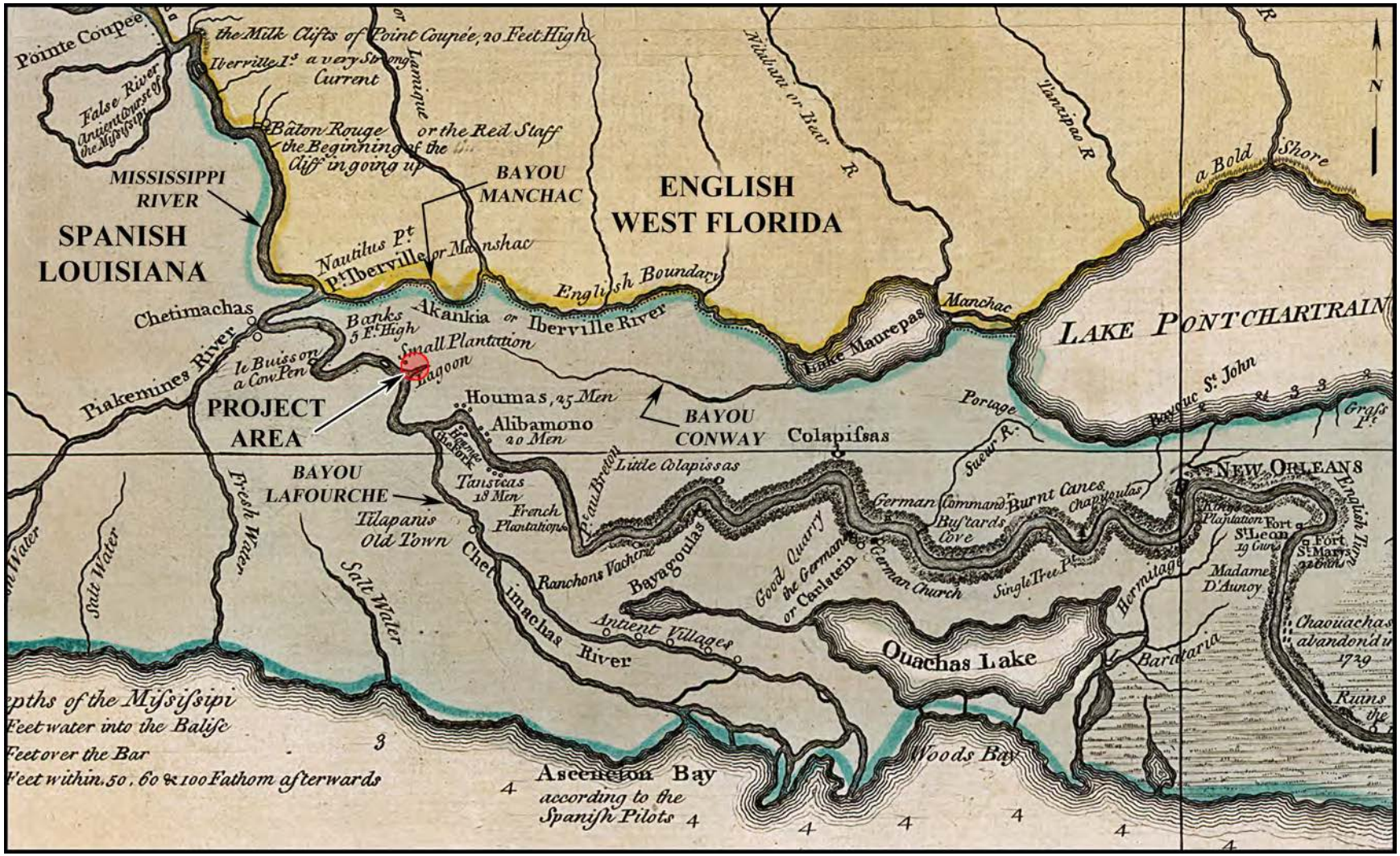

Figure 3-6. Detail of John Ross' (2010) 1772 *Course of the River Mississippi, from the Balise to Fort Chartres*, which was based upon his late 1765 observations. Note the crevasse marking the project area vicinity (labeled "Lagoon") and the "Small Plantation" immediately upstream.

nations were described as being located on the left descending bank of the Mississippi River six leagues below Bayou Manchac and 22 leagues above New Orleans—essentially the site of Grand Houmas at Burnside. Depleted by disease, the four groups together essentially comprised only one by 1764. Shortly after, they were joined at the Petit Houma village at Burnside-Union by the Pacana Alibamon (often Alabama) and possibly the Coosada Coushatta, both of whom were friendly towards the French (Bourgeois 1957:1; Hunter 2000:2; Shuck-Hall 2008:106).

Spain was slow to take possession of Louisiana. In fact, it was not until 1766 that the first Spanish governor, Don Antonio Ulloa, arrived there. Unable to enforce Spanish rule on his French subjects, Ulloa had very little real control over Louisiana, and in October 1768 the Superior Council of Louisiana ordered Ulloa to leave the colony. Spanish control was not firmly established in the colony until the arrival of General Alejandro O'Reilly in August 1769, largely because O'Reilly arrived in New Orleans with a force of about 2,000 soldiers (Wall et al. 2002). After quelling the resistance to Spanish rule, O'Reilly turned over control of the colony to Governor Luis de Unzaga y Amezaga and returned to Cuba.

Prior to Ulloa's arrival in the colony, the British established Fort Bute on the north side of Bayou Manchac (Figure 3-7). Actual construction of the fort began in February 1765 (Rea 1970:7). However, on 10 August 1765, 50 Alibamon and Houma warriors raided Fort Bute, which was then still under construction. The British fled the fort and the Alibamon carried off both guns and supplies while killing the British's livestock (Rea 1970:7; Shuck-Hall 2008:106).

To counter English Fort Bute, the Spanish erected *Fuerte San Gabriel de Manchac* in 1766 (see Figure 3-7). To provide the Spanish fort with supplies and support, recently arrived Acadians were forcibly settled in what is now Iberville Parish in 1767. They joined the first Acadian arrivals who were settled at Cabannocé—present-day St. James and Ascension parishes—in 1765 (Bourgeois 1957:12-13, 166-169; Boyd 1898:91; Brasseaux 1987:81, 103, Voorhies 1973:429).

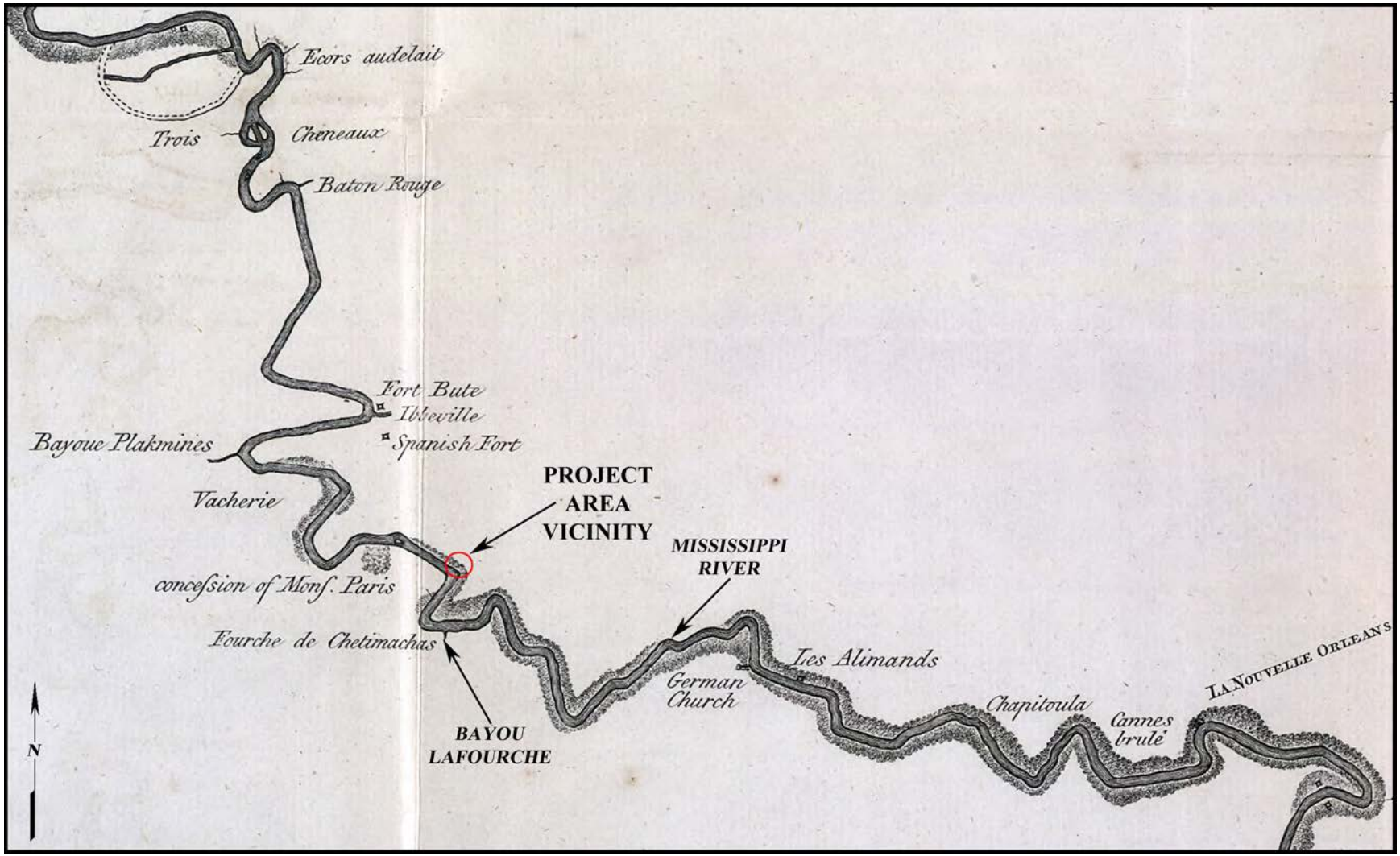

Figure 3-7. Detail of Philip Pittman's (2010) 1770 *A Draught of the Missisippi* [sic] *River*, which was based upon his 1764–1767 observations. Pittman did not include any cultural details in the project area vicinity, nor did he include a crevasse.

The Acadians had been forcibly removed by the British government from their homeland in Acadia (Nova Scotia) and the surrounding area between 1755 and 1763 (Hebert 1980:647). Exiled by the British, the Acadians were sent to a variety of settlements scattered throughout the world. Generally, they were not well received in their new homes and were treated as intruders. Therefore, many of the Acadian refugees began to seek more amenable surroundings in which to live. One place that appealed to them was the French colony of Louisiana. Many of the exiled Acadians saw Louisiana as an ideal place in which to live, because the colony offered not only large tracts of unoccupied land on which to settle, but also a French government that they believed would be more sympathetic to their own wishes and desires. Unbeknownst to the Acadian refugees until 1766, however, was that Spain had acquired Louisiana from the French in 1763 (Wall et al. 2002:57-58).

In late 1765, English Lieutenant John Ross travelled down the Mississippi River from the Illinois country to New Orleans (Alvord and Carter 1915:xlviii). During the course of his journey, Ross completed a survey of the river entitled *Course of the River Mississippi, from the Balise to Fort Chartres; Taken on an Expedition to the Illinois in the latter end of the Year 1765* (see Figure 3-6). Obviously drawing upon earlier sources for much of his information, Ross (2010 [1772]) does provide up-to-date data for portions of the lower Mississippi River. At the mouth of Bayou Manchac, Ross referred to the area above that stream as Nautilus Point (see Figure 3-6)—a nod to the HMS *Nautilus* which had arrived there in April 1765 (Rea 1970). Not included were Fort Bute and *Fuerte San Gabriel de Manchac*, neither of which were then extatn. A short distance downriver, Ross included a "Small Plantation" and a "Lagoon." A Spanish census of the region made in 1766 recorded that the Houma at the Grand Houmas were residing upriver of the Alibamon (see Figure 3-6). Upriver of the Houma were the habitations of Saturnin Bruno and Felix Pax (Bourgeois 1957:162-170). Neither Bruno nor Pax were of Acadian descent and must have resided between the Grand Houmas (Burnside) and the Rivière d'Iberville (Bayou Manchac). Then the only European inhabitants of the area, the "Small Plantation" noted by Ross in 1765 was likely the home of either Bruno or Pax. Regardless, the habitation depicted by Ross would have been located very near the present project area, perhaps at latter-day Mount Houmas Plantation. Immediately downriver of the habitation in 1765 was the lagoon depicted by

Ross, almost certainly a crevasse that led to present-day Bayou Conway. Historic quadrangles of the area (e.g., USGS 1939) indicate that there was once a small bayou that closely followed the section line dividing Sections 21 and 22, Township 10 South, Range 2 East (Figure 3-8). The topography of the area strongly suggests that the bayou was once a crevasse channel (see Figure 3-8), perhaps the same as that depicted by Ross in 1765. Notably, that bayou would have extended through at least part of the project area.

Fort Bute was abandoned by the British in 1768. Following the Alibamon attack of 1765, a small stockade fort was erected at the post in December 1766 by the 21st Regiment. That fort was demolished when the post was abandoned in 1768, and the post was not garrisoned again until 1778 (Hutchins 1784:42).

In describing the boundaries of British West Florida in about 1775, Governor Peter Chester wrote:

> *As to the Islands contiguous to the river which is generally called the lbberville (but by some said to be more properly titled the Amite)* [Bayou Manchac] *formed by the several inlets between it and the River called by the Indians the Houma, they can be of little consequence either to Great Britain or to Spain; but they may very properly serve for the Hunting Grounds for the small tribes of Indians in Amity with both: and for this purpose they were used, till about the Year 1770, that upon Account of the War between the Creeks and the Choctaws, the most of these tribes moved either further up, or to the other side of the Mississippi, in order to be more secure.* [Padgett 1943:10-11]

Of particular interest is Chester's statement regarding the Houmas River, which he went on to describe:

> *This River of the Houmas, takes its rise from the Mississippi, at the first bend thereof above the Indian Village of that name* [at Burnside]*, by two or more small Openings which when Mr. Gauld passed them, going up the Mississippi in March 1774, had full 13 feet water, tho at that time there was not above as many Inches in the lbberville at Manchac, and we were well informed that the French as well as Indians go through there in their Canoes to Lake Maurepas, where this River disembogues itself, it appears there also to be larger than the lbberville, and is frequently mistaken for it. As this forms the principal part of the Northern Boundary of the Island of Orleans, an*

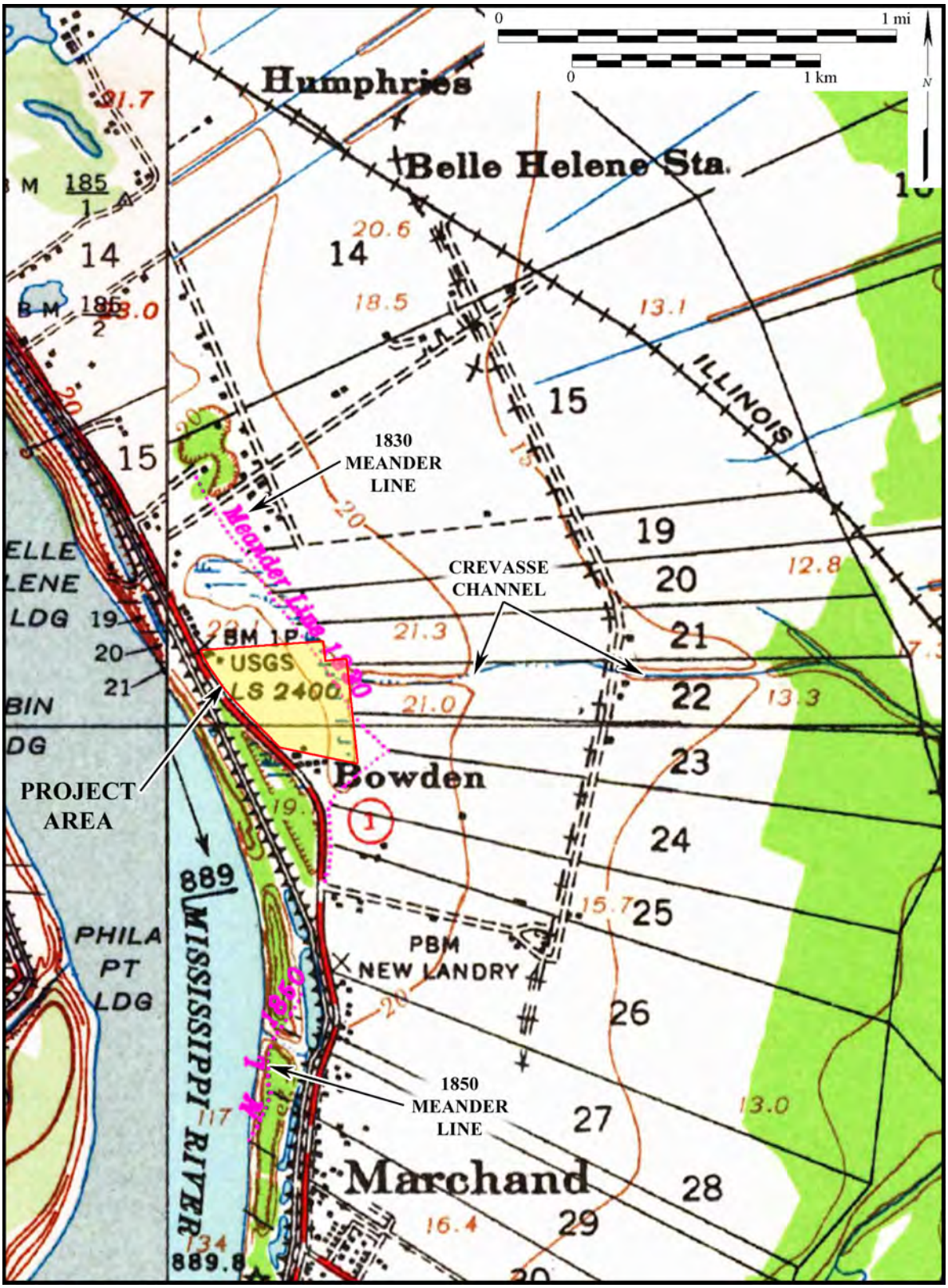

Figure 3-8. The project area and vicinity in the late 1930s (USGS 1936, 1939). Note the project area's relationship to the "Meander Line 1830" and the adjacent slough. Also note the structures in the northwest corner of the project area, near LA 1 (now LA 75).

> *Authentic Survey of it is much wanted; as it might prevent every Possibility of future disputes by ascertaining the real extent of the Spanish Dominions.* [Padgett 1943:11]

Cartographer George Gauld (2010 [1778]) used the information that he gathered in 1774 to contribute to his 1778 *A Plan of the Coast of Part of West Florida & Louisiana: including the River Mississippi from its Entrances as high up as the River Yazous* (Figure 3-9). As described by Chester, Gauld noted an area of "Small Bayous running into the Lakes out of the River when it is high" within the immediate vicinity of the present project area. Water flowing through those streams likely fed into what is now known as Smith Bayou, Boyle Bayou and Bayou Conway. These streams were all interconnected to New River and Bayou Manchac. Indeed, Gauld noted of one stream connecting to Bayou Manchac, "This Branch runs into some Lakes said to communicate with the Houma Creek, which falls into the Lake Maurepas" (Gauld 2010 [1778]). The stream described by Gauld is now known as Alligator Bayou, which flows into Spanish Lake. The lake, in turn, is connected to a branch of New River. Through a series of streams, access to Lake Maurepas could eventually be made through Petite Amite River and Blind River. Indeed, Gauld named the outfall of Blind River into Lake Maurepas as "Houma Creek." The "Small Bayous" recorded by Gauld in 1774 would have included the "Lagoon" previously recorded by Ross in 1765 (compare Figure 3-7 and 3-9).

Notably, nineteenth-century Mount Houmas Plantation stood immediately upriver of the "Small Bayous" noted by Gauld in 1774. The plantation purportedly gained its name from the Houma, who once resided there (Brown 1888:5). In 1732, D'Anville noted the area immediately below the bayous' location was the site of the "Petits Houmas" (see Figure 3-5). Interestingly, D'Anville's map does not include Houmas Creek, nor do any other early eighteenth century maps (e.g., see Figures 3-3 and 3-4). Indeed, the earliest known cartographic source depicting the stream is Ross' (2010) 1772 *Course of the River Mississippi, from the Balise to Fort Chartres* (see Figure 3-6), which was based upon his 1765 surveys of the river. Perhaps the crevasse that formed the stream did not occur until the mid eighteenth century or the stream was too insignificant to record prior to the 1760s. It was, however, apparently relatively large by 1774 when Gauld noted that it was 13 ft deep (Padgett 1943:11).

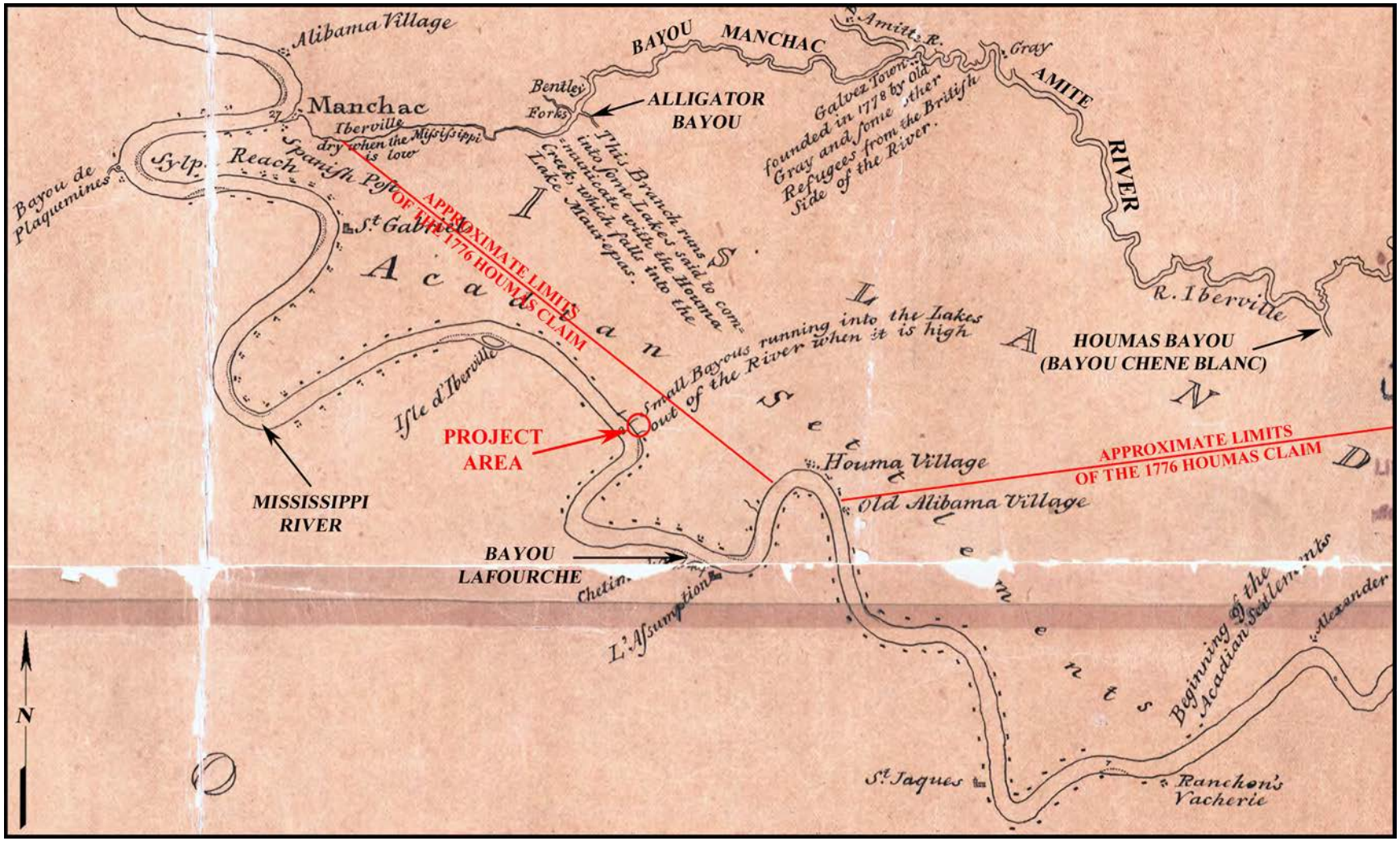

Figure 3-9. Detail of George Gauld's (2010) 1778 *A Plan of the Coast of Part of West Florida & Louisiana*, which was based upon his 1774 observations. Note the crevasses labeled "Small Bayous running into the Lakes out of the River when it is high" in the project area vicinity. The approximate limits of the 1776 Houmas claim are delineated in red.

As the English had abandoned Fort Bute in 1768 and did not reoccupy it until 1778, Gauld did not include the fort on his map (see Figure 3-9). Spanish *Fuerte San Gabriel de Manchac*, still extant in 1774, was recorded by Gauld as the "Spanish Post." Below the Spanish fort and on both sides of the river, Gauld depicted an almost continuous series of occupations—virtually all of which were Acadians. While the habitations depicted by Gauld may not correspond precisely with actual house sites, his map accurately portrays the density of settlement along the riverfront, as well as the gaps between those settlements. One of those gaps was in the project area vicinity, probably due to the active crevasses.

As the Houma were being increasingly pressured by pro-English Native Americans and by the encroaching Acadians, they decided to sell their village in 1774 and move to Bayou Lafourche. At first offering to sell *Les Houmas* to Luis Boisdoré that summer (Louis Judice to Luis de Unzaga, 23 July 1774, PPC, Legajos189-A, folio 549-551, AGI, as translated by Dayna Bowker Lee 1995), they ultimately sold their lands to Alexandre Antoine de Latil de Thimecourt and the partnership of Maurice Conway and Bartheleme McNemara (sometimes Bartholomeo Magnemassa) on 5 October 1774 for 150 *piastres* in goods (Bibb 1845:6, 33; Toledano and Christovich 2003:37). When Luis Andry surveyed Conway's property in 1776, he found that it had a frontage of 96 arpents and extended to about present-day Hillaryville (formerly Marchandville) (Bibb 1845:8-9, 1848:4-5). The sidelines of the Houmas Claim would have included the rear portions of Sections 21 through 24 (see Figure 3-9).

By 1777, Louisiana was becoming increasingly involved in the American Revolution. While the Spanish government sympathized with the Americans and secretly provided a base of supply for them in New Orleans, Spain did not enter the conflict until 1779. That fall Bernardo de Galvez captured the British fort at Baton Rouge, and with it received the surrender of the fort at Natchez. The following spring he captured Mobile, and in the spring of 1781 he added the last of the major British forts in West Florida—Pensacola. As a result of the 1783 Treaty of Paris, which ended the American Revolution, Spain gained control of West Florida (Wall et al. 2002).

Spain retained possession of Louisiana until October 1800 when the colony was ceded back to France under the secret Treaty of San Ildefonso. News of the transfer was not immediately made public, however, and Spanish officials remained in control of the colony until 30 November 1803 when it was formally transferred to French Governor Pierre-Clemént de Laussat. Before Laussat even confirmed France's control of Louisiana, however, news of France's sale of the colony to the United States began reaching New Orleans. Laussat's governorship was a brief one as he transferred Louisiana to the United States on 20 December 1803, only 20 days after the colony's transfer to France. Although neither treaty included specific boundaries, it was ultimately determined that Louisiana consisted of all of France's colony west of the Mississippi River and the Isle of Orleans. Spanish West Florida, meanwhile, remained under Spanish control until 1810. As a result, Bayou Manchac continued to serve as an international boundary into the nineteenth century. Despite Spain's 37 year rule, Louisiana's culture was still predominantly French—though with some traits contributed by other, largely assimilated, groups (Laussat 1978:78-88; Wall et al. 2002:85-87).

American Period, 1803–DATE

The Antebellum Years, 1803–1861

As the project area and its immediate vicinity were the site of an active crevasse in the 1760s and 1770s, it is unlikely that there was settlement there at that early date (e.g., see Figure 3-9). Those lands, however, were settled not long after. With the transfer of the colony to the United States in December 1803, it became necessary for land owners to prove their legal ownership of their property. During the following years, Alexander Chener claimed the 3-arpent front by 40 arpent deep Section 21 (Figure 3-10); Pierre Braud claimed the 3.25-arpent front by 40 arpent deep Section 22; Nicolas Landry claimed the 2.75-arpent front by 40 arpent deep Section 23; and the 4-arpent front by 40 arpent deep Section 24 was claimed by Joseph Babin, *fils* (Lowrie 1834a:II:239, 1834b:III:520) (one arpent equals 191.833 ft or 58.47 m). Chener, Braud and Landry had all purchased their properties from previous landowners, Babin apparently had as well.

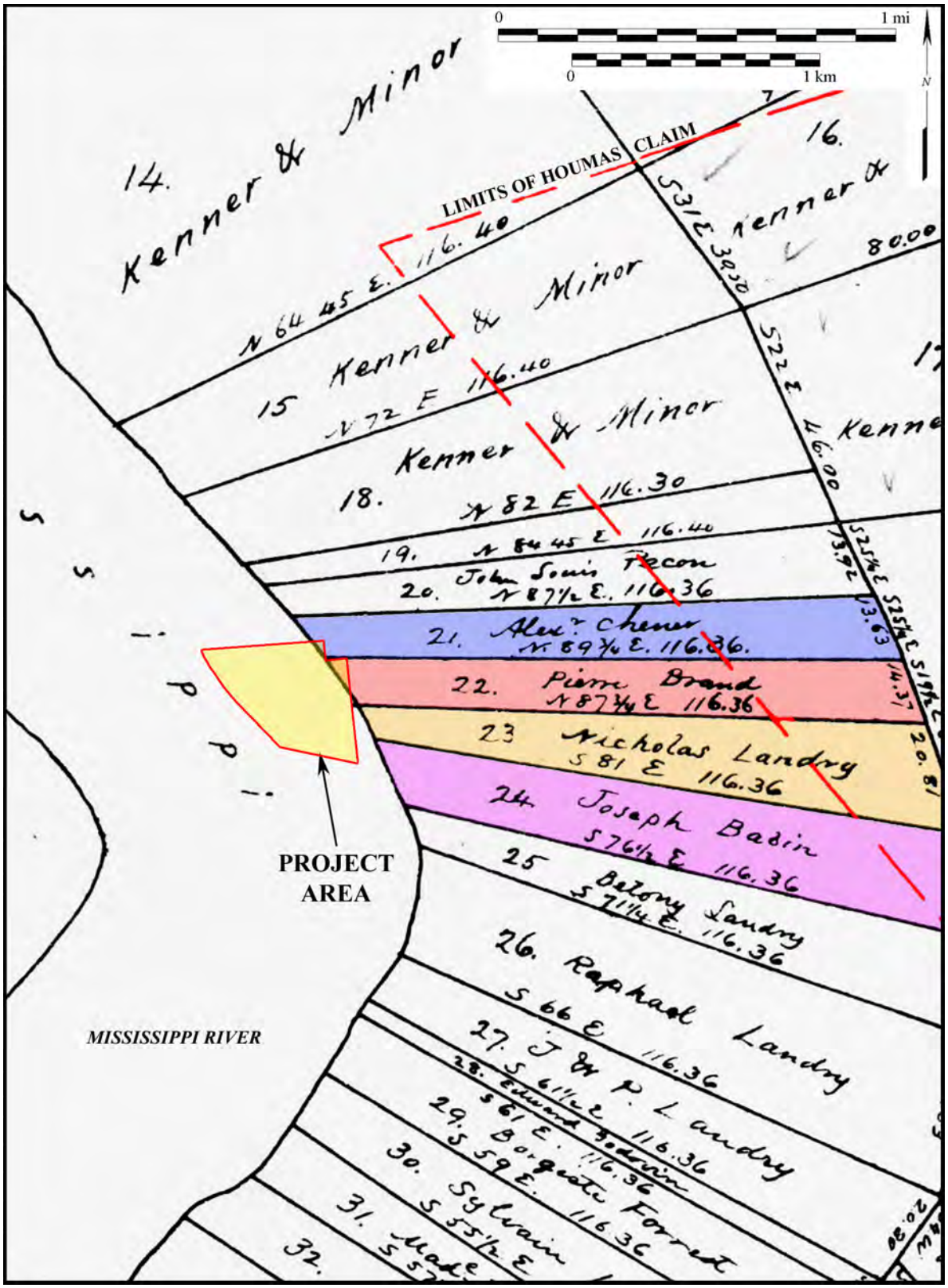

Figure 3-10. Detail of the official 1831 plat map entitled "T. X and XI R. II E. (St. Helena Meridian) South Eastern District Louisiana" (Rightor 1831). Note that the project area then lay within the channel of the Mississippi River.

Chener, Braud and Landry all based their claims upon residency and cultivation of their respective properties in December 1803, either by themselves or by the previous landowners. Babin's claim was based on occupancy dating to at least 1793 (Lowrie 1834a:II:239, 1834b:III:520). From this, it is clear that all four properties were inhabited by the turn of the nineteenth century. It may also be inferred that the channels noted by Ross and Gauld were no longer active as they would have seasonally flooded those properties. Indeed, nearby Section 25, claimed by Belony Landry, was likely the oldest settled claim in the immediate area. That property was originally surveyed in 1783 (Lowrie 1834a:II:224), well after most of the Acadian Coast had been settled.

That 1783 survey, however, had not been conducted for Landry. Instead, it had been conducted for Michel Judice, who claimed a frontage of 50 arpents. Judice's claim is known to have included Sections 25 through 30, totaling approximately 22 arpents frontage. It did not, however, extend downriver beyond Section 33 (Lowrie 1834a:II:224-225; 1834b:III:223, 520). Examination of the original claims documents (Louisiana State Land Office, Baton Rouge, Louisiana) for the area indicates that while the four arpent frontage of Section 31 may have been part of the Judice claim, Section 33 was not. The original disposition of Section 32 is not known. Based upon the foregoing, Judice's 50 arpents must have included the 13 arpents forming Sections 21 through 24 as well as the 22 arpents forming Sections 25 through 30. In addition, Judice's 1783 grant presumably included Sections 18 through 20 and possibly Section 31 as well. Judice obviously subdivided his massive holding between 1783 and 1803. Hence, while the project area and its immediate surroundings were under private ownership beginning in 1783, those lands were likely not settled until somewhat later.

The newly arrived American administration brought many changes to Louisiana. In March 1804, Congress established the Territory of Orleans, which encompassed all of the present state of Louisiana west of the Mississippi River. That portion of the former French colony north of the thirty-third parallel, meanwhile, became the District of Louisiana. A superior court having three judges was formed, and a legislative council was designated. Among the many acts passed before the first legislative council in April 1805 was one that divided the territory into twelve counties—Natchitoches, Rapide, Opelousas, Attakapas,

Ouachita, Pointe Coupée, Orleans, Côte des Allemandes, Côte d'Acadie, Lafourche, Concordia, and Iberville (Whittington 1970:49-51). With the exception of the County of Concordia, none had specific boundaries. The Côte d'Acadie consisted of present-day St. James and Ascension parishes (Figure 3-11), widely known as the First and Second Acadian Coasts, and would have included the present project area.

In March 1807, the territorial legislature reorganized the 12 counties of the Territory of Orleans into 19 civil parishes, which were largely based on Spanish colonial era ecclesiastical parishes. As a result, the Côte d'Acadie was divided into Ascension and St. James parishes. While the new parishes were used to fulfill judicial purposes, the 12 original counties were maintained for legislative and taxation functions (Calhoun and McGovern 2007:224).

There was only one town in all of Ascension Parish during this period—Donaldsonville. Established in 1806 by William Donaldson, a merchant and banker residing in New Orleans, the town was the site of the parish church. Located on the west bank of the Mississippi River, it was necessary for the occupants of the east bank to cross the river to even attend church. Donaldson envisioned the town developing into a large commercial center at the mouth of Bayou Lafourche, and in 1813 the town was named as the parish seat. Seventeen years later, Donaldsonville briefly served as the Louisiana State Capital (1830–1831) (Fortier 1909; Marchand 1943).

Chafing under Spanish control, unrest among the American settlers in Spanish West Florida came to a head in 1810. In the early morning hours of 23 September 1810, 75 members of the revolutionary West Florida militia quietly entered Fuerte San Carlos in Baton Rouge by following a cow path up from the river, passing through an opening in the palisade, and thence onto the parade ground without being challenged by Spanish sentries. After a short skirmish, the revolutionaries captured Spanish Governor Carlos de Hault de Lassus and the garrison of the fort without any losses to themselves (Meyers 1976:93-94).

Upon the fall of the fort, the rebels proclaimed West Florida as an independent republic. The sovereignty of the republic was short lived for arrangements were immediately

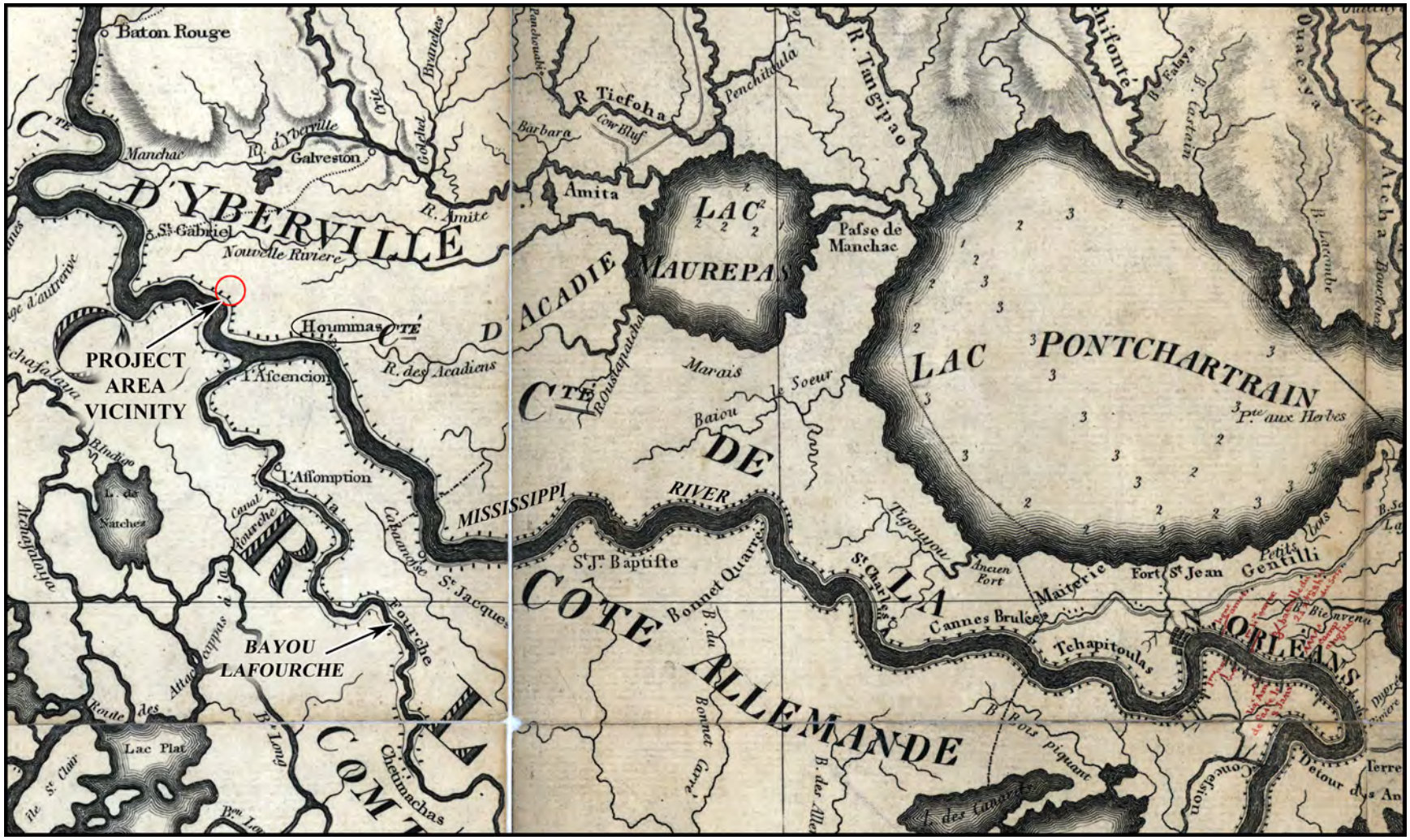

Figure 3-11. Detail of Barthélémy Lafon's (2010) 1806 *Carte Généerale du Territoire d'Orléans Comprenant aussi la Floride Occidentale et une Portion du Territoire du Mississipi* depicting the area between Baton Rouge and New Orleans. Note that the project area was located with the Côte d'Acadie.

made for the new republic to become part of the United States. On 7 December 1810, the four hundred men of the army of West Florida marched out of the fort and were replaced by U.S. troops under the command of Colonel Leonard Covington (Casey 1983:18). With this, the United States acquired all of Spanish West Florida, which soon to became known as the County of Feliciana (Calhoun and McGovern 2007:225). Already in possession of Louisiana, Bayou Manchac ceased to serve as an international boundary in 1810. Two years later, Louisiana joined the United States as the eighteenth state of the Union (Calhoun and McGovern 2007:112).

The most detailed map of the area drawn during this period is Guillaume Tell Poussin's (1817) 1817 manuscript map *Reconnoitering-Chart of the South Frontier of the United States of America from the River Perdido Towards the East as Far as the River Sabine to the West* (Figure 3-12). In the project area vicinity, Poussin depicted two crevasse channels flowing off of the Mississippi River. The downstream-most channel likely flowed between latter day Sections 21 and 22 (see Figure 3-8); the upstream crevasse probably flowed through Section 15. Though it is unclear if the two channels had been closed by 1817, both were crossed by what was then River Road (see Figure 3-12). Both were also crossed by a road located well back off of the river. Known as the Cut-Off Road, it may have followed the old upper line of the Houmas Claim (see Figures 3-9 and 3-10) through the project area vicinity to connect present-day Burnside and Geismar. Notably, Poussin (1817) did not include any habitations between the two crevasses, though he did include two sizable plantations immediately downriver. Comparison of the Poussin (1817) map with other, more recent, maps suggests that these plantations were located on Sections 24 and 26. A short distance upstream, Poussin noted the "Chew" property (see Figure 3-12), in reference to Beverly Chew. Chew and Richard Relf were the executors of Daniel Clark's estate following the latter's death in 1813 (Alexander 2001:18).

It was during this period that William Kenner and Philip Minor began acquiring property in the Geismar area (Bureau of the Census, United States of America [Census Bureau] 1820), perhaps from the Clark estate. In 1821, Kenner and Minor received conformation of their title to Sections 14 and 19, both fronting the Mississippi River (Lowrie

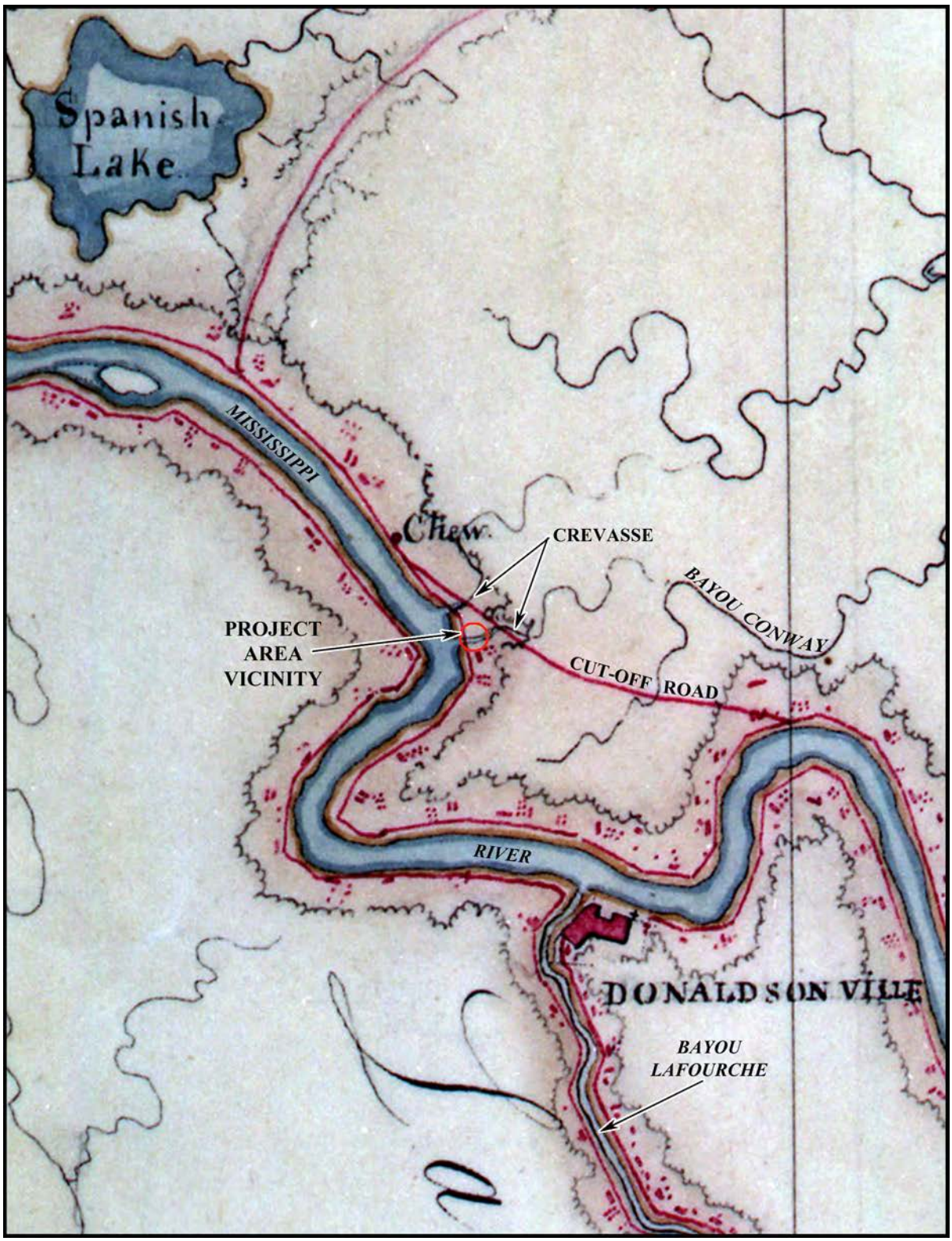

Figure 3-12. Detail of Guillaume Tell Poussin's (1817) 1817 manuscript map *Reconnoitering-Chart of the South Frontier of the United States of America from the River Perdido Towards the East as Far as the River Sabine to the West* depicting the project area vicinity. Note the roads passing over the crevasse channels in the project area vicinity.

1834b:III:520; Rightor 1831). Soon after, they also acquired Sections 15, 18 and 20 (see Figure 3-10), giving what was then known as Linwood Plantation a frontage of 44 arpents (Goodwin et al. 1985:105; Lowrie 1834b:III:520; Rightor 1831). In addition, they also owned several tracts behind those lands.

Though Poussin (1817) did not include any habitations in the immediate project area vicinity, those properties were indeed inhabited. As noted above, Alexander Chener claimed Section 21, Pierre Braud claimed Section 22, Nicolas Landry claimed Section 23, and Joseph Babin, *fils* claimed Section 24 (Lowrie 1834a:II:239, 1834b:III:520) (see Figure 3-10), all based on ownership prior to 1803. All four were residing on their respective properties in 1820 (Census Bureau 1820). By 1830, however, all seem to have moved to other areas (Census Bureau 1830). Indeed, the only family that seems to have remained in the area was that of Jean Louis Picou on Section 20.

Following William Kenner's death in 1824, his interest in Linwood Plantation was eventually consolidated by his sons Duncan Farrar Kenner and George Kenner; the remaining interest in the property was held by Philip Minor (Goodwin et al. 1985:107). By 1828, Minor was producing large quantities of sugar on their plantation—575 hogsheads in 1828 alone (Degelos 1892:65). Immediately downstream of Minor in 1828 were the plantations of Isidore Bonicard and Penny, Trist & Co. (later Bowden Plantation). While Bonicard produced only 14 hogsheads of sugar that same year, Penny, Trist & Co. produced 180 hogsheads. In 1830, Bonicard apparently resided three doors down from Picou (Census Bureau 1830), and by 1831 the two men jointly operated a single sugar plantation (Degelos 1831).

While sugarcane had been grown in Louisiana for many years, it had been used primarily for the production of syrup and taffia (a type of low-grade rum). It was not until a successful technique for granulation was introduced in about 1795 that it became economically attractive to cultivate cane (Rehder 1971). By 1800, at least 75 planters in the New Orleans area were engaged in sugar planting (Schmitz 1977:13), and over the next several years the cultivation of sugar spread over much of the alluvial lands in the southern

part of the state. Sugarcane production was given a considerable boost in 1803 when Louisiana was acquired by the United States. Unlike Spain and France, the United States had no other colonies or territories that produced sugar, and the expanding country provided an enormous market for Louisiana sugar. The high price of sugar, coupled with a high tariff, lured many potential planters into the sugar industry and, hence, to Louisiana (Rehder 1971:66-67). Favorable soils and climate, combined with close proximity to the market in New Orleans via the Mississippi River, offered an ideal environment for sugarcane production in the study region.

Still, the earliest sugarcane stock was not sufficiently hardy to endure the cooler winters north (upriver) of New Orleans, thus rice, as well as cotton, dominated the area until the 1820s. Much of the expansion in sugar cultivation occurred after 1817 with the introduction of a new sturdier strain of cane from Georgia by John J. Coiron. This new variety, known as Ribbon cane, withstood cold better and required less care in cultivation than had the Malabar, Otheite, and Creole strains which were then being grown (Schmitz 1977:13). By the late 1820s, the sugar region came to include the lands along the Mississippi River from Plaquemines Parish to Point Coupée Parish as well as the areas along the natural levees of Bayous Barataria, Teche and Lafourche.

Precisely where Bonicard and Picou's sugar plantation was located is currently unknown. Nor is it known where their two intervening neighbors, Joseph Cailler and Pierre Asserquel (?), were residing in 1830 (Census Bureau 1830). While it is not known exactly where these families resided, cartographic regression analysis makes it quite clear that none were within the present project area. When Township 10 South, Range 2 East, was first surveyed in 1829–1830 (see Figure 3-10), the riverbank was located well east of its present location in the project area vicinity. Indeed, virtually the entire project area then lay within the Mississippi River channel (see Figure 3-8). While lying within the limits of the river channel, it is unclear if the project area was then open water or if it was low-lying batture cut through by old crevasse channels and sloughs. Regardless, it is clear that the project area was not considered to be habitable in 1829–1830. That, however, was to soon change.

In 1835, George Kenner acquired Jean Louis Picou's Section 20, which abutted the downriver side of Linwood Plantation. The following year, the Kenners and Minor physically split their interest in Linwood Plantation, Minor receiving the upper 20 arpent frontage and the Kenners the lower 24 arpents. In 1839, Duncan Kenner married Nanine Bringier, and in 1840–1841 had the Ashland great house built on Section 15 as a wedding gift to his new bride. In 1843, Kenner purchased Section 21 from Theodore Segond's estate (formerly owned by Alexander Chener), and in 1844 bought out George Kenner's interest in Ashland Plantation (Goodwin et al. 1985:107). Soon after, Kenner had a race track constructed on his newly acquired property (Babson 1989:17). Built on an east-west axis, the horse track was located immediately upriver of the Section 21-22 crevasse channel and extended upriver (northward) into Section 20.

The river shifted course so rapidly during the 1830s and 1840s that it soon caused problems in land ownership along its banks. In 1849, A.W. Warren was contracted to resurvey 81 Mile Point below the present project area (Field notes of A.W. Warren, Louisiana State Land Office, Baton Rouge, Louisiana). Warren began his survey along the upper line of Section 26 and surveyed the frontage of both Sections 25 and 26 in the Spring of 1850 before proceeding downriver. However, as the river had shifted course since 1830, Warren's 1850 survey of the point yielded considerably different results from the earlier surveys, shifting some sections considerably westward (Figure 3-13). Both the 1830 and 1850 surveys are reflected in historic and modern quadrangles. For instance the 1939 USGS quadrangle for Donaldsonville depicts the "Meander Line 1830" in the immediate vicinity of the project area and "M L 1850" a short distance downstream (see Figures 3-8 and 3-13), the two meeting at Section 24.

It is obvious that the riverbank accreted quite rapidly in this area during the 1830s and early 1840s as cartographic regression analysis indicates there was a complex of buildings standing in the northwest corner of the project area by about 1847 (Figure 3-14). Fronting Section 21, the complex was likely included with the property that Duncan Kenner purchased from the estate of Theodore Segond in 1843, though it actually lay west of the original boundaries of Section 21. Constructed on land that did not fully exist in 1830 (see

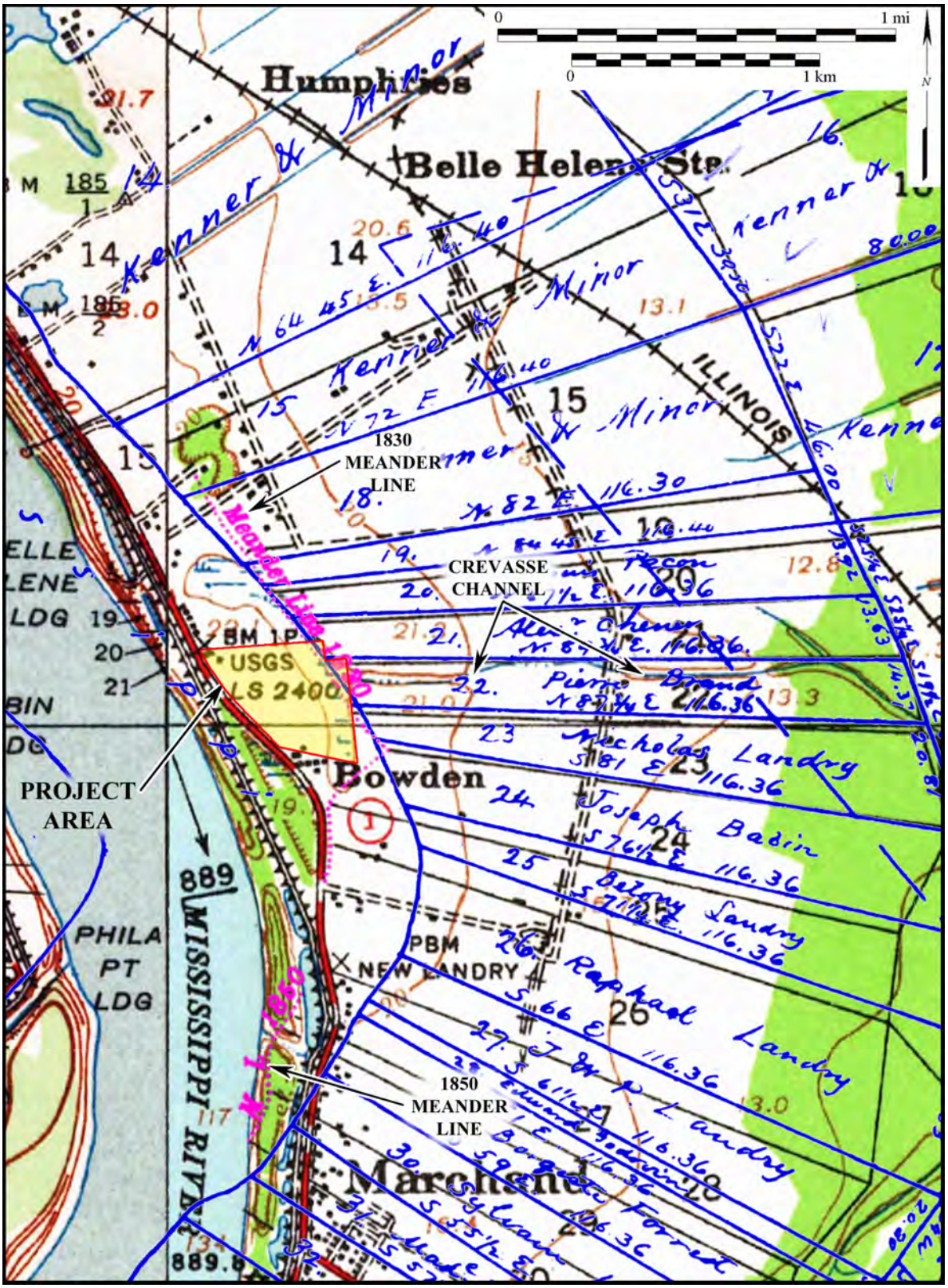

Figure 3-13. Overlay of the official 1831 plat map of the area with 1930s USGS quadrangles (Rightor 1831; USGS 1936, 1939) (compare to Figures 3-8 and 3-10). Note the bankline changes in the project area vicinity.

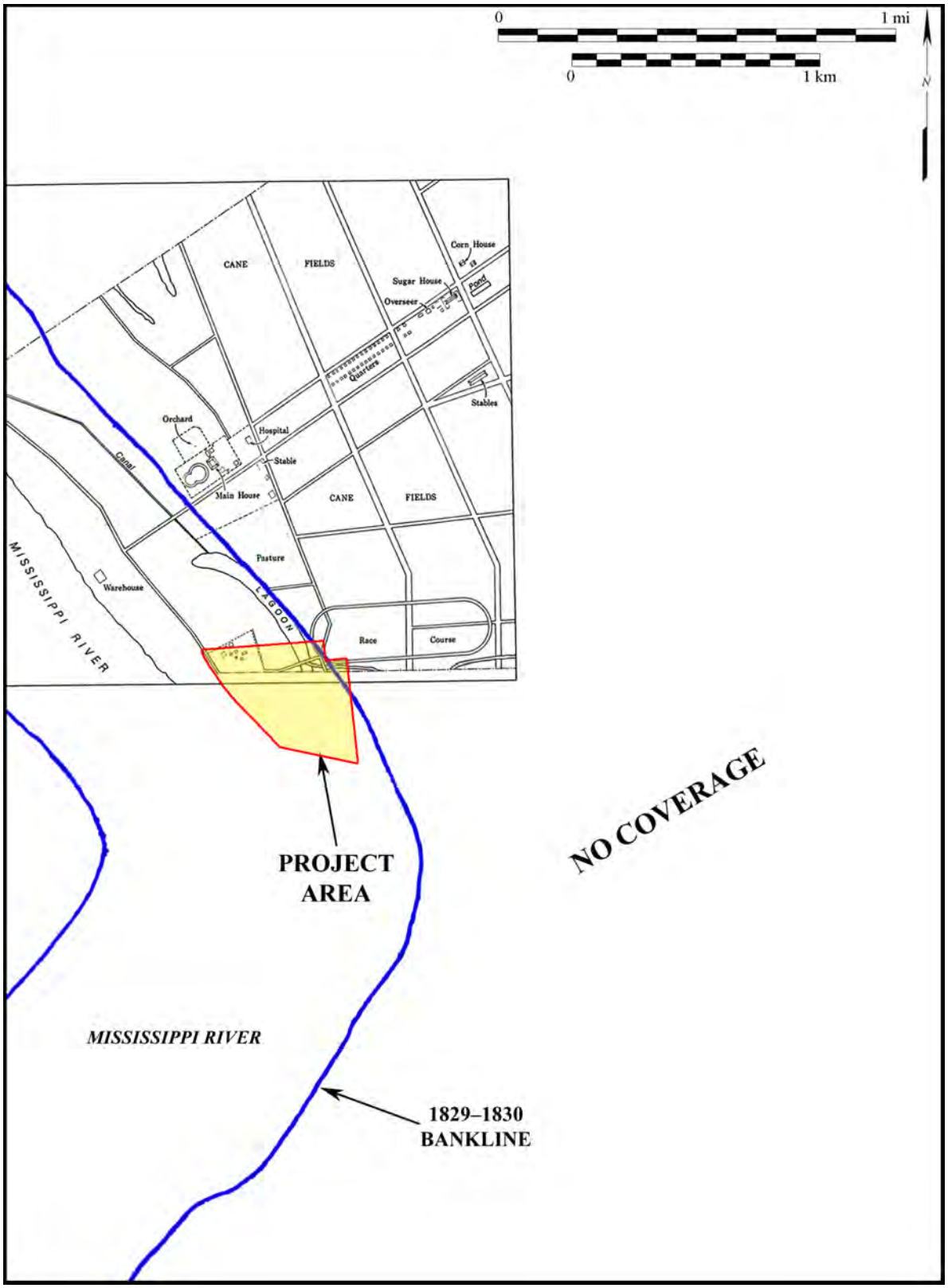

Figure 3-14. The circa 1847 A.J. Powell map of Ashland Plantation (Babson 1989:17), and its relationship to the 1829–1830 Mississippi River bankline (blue). Note the circa 1847 improvements in the northwest corner of the project area.

Figure 3-10), the buildings must have been relatively new in 1843. Consisting of eight structures within a fenced enclosure, the complex was bound on the west by a road, which undoubtedly paralleled an artificial Mississippi River levee. Another road extended to the east along the lower boundary of Section 21. That road led to Duncan Kenner's nearby race track. Between the race track and the building complex in 1847 was a lagoon, which is still extant today. The latter road also either met another road which followed the Section 21-22 crevasse channel or crossed that channel itself. Six of the eight buildings in the complex, the east-west road leading to the Kenner race track and the extreme southwest corner of the track all fall within the limits of the present project area (see Figure 3-14). Presumably built between 1830 and 1847, the complex was presumably associated with Theodore Segond's ownership of Section 21. It is less likely that Kenner built the complex after acquiring the property in 1843 (Goodwin et al. 1985:107).

Just a few years after Kenner acquired Section 21, A.A. Humphreys and H.L. Abbot (1858) conducted their 1851–1852 survey for their manuscript map entitled *Mississippi River from Red River Landing to Carrollton* (Figure 3-15). By then, most of the building complex already had been removed from the project area and only one structure was still extant. At the time, the project area was bound to the west by the Mississippi River levee and river road. Present-day River Road (LA 75) still follows this same alignment through the area. Dividing the project area in 1851–1852 was an east-west fenceline separating Duncan Kenner's Ashland Plantation from his neighbor General Hore Browse Trist (formerly of Penny, Trist & Co.). The improvements on Trist's Bowden Plantation lay immediately south of the present project area, but did not extend into it. Humphreys and Abbott (1858) also noted on the batture opposite the project area and Bowden Plantation that "This batture increasing at the rate of 40 acres per annum," indicating that the river was indeed depositing considerable sediment in the area (see Figure 3-15). If that rate of accretion occurred through the 1830s and 1840s as well, it is entirely possible that the project area was indeed in the river channel in 1829–1830. Purchasing 24-arpent-front Bowden Plantation in 1858 (Goodwin et al. 1985:108), Kenner would have been the beneficiary of this newly accreted land. It also placed Kenner in possession of the entire project area. Though he may have grown sugarcane in the project area, the lands there may not have been amenable to such agriculture.

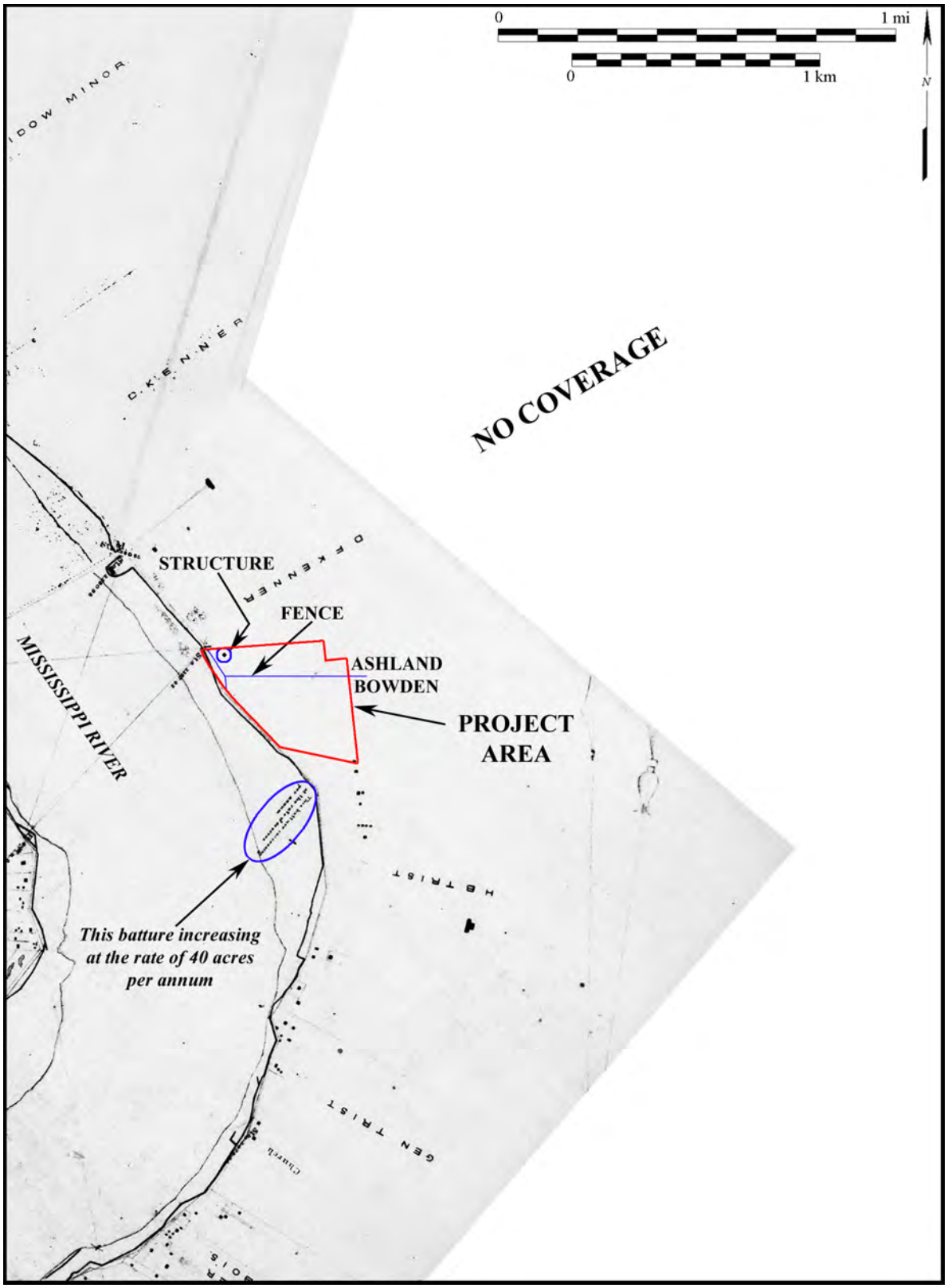

Figure 3-15. Detail of Humphreys and Abbot's (1858) 1851 *Mississippi River from Red River Landing to Carrollton* depicting the project area vicinity. Note the single structure in the northwest corner of the project area.

Civil War, 1861–1865

Outside events were to strongly affect Louisiana in the mid nineteenth century. In 1860, Abraham Lincoln was elected President of the United States. In January 1861, Louisiana Governor Thomas Overton Moore led a special legislative session in Baton Rouge, at the conclusion of which the state seceded from the Union. Moore quickly took over all federal property within the state and rapidly allied Louisiana with the Confederate States of America (Wall et al. 2002:188).

On 12 April 1861, less than three months after Louisiana seceded from the Union, Confederate forces under the command of Louisiana native Brigadier General Pierre Gustave Toussaint Beauregard opened fire on Fort Sumter in South Carolina. The Union garrison surrendered two days later (Hearn 1995:29). A week later, President Abraham Lincoln ordered blockades to be enforced around southern ports, including New Orleans (Blume 2002:241).

Despite the importance of New Orleans to the Confederacy, it was not until October of 1861 that Major General Mansfield Lovell was sent to New Orleans to organize the city's defenses. Lovell, though capable, was hampered by Jefferson Davis' insistence that the naval fleet at New Orleans was not under his command. When Lovell arrived in New Orleans on 17 October 1861, he found that the city had been virtually stripped of all war materiel. With Union forces tightening their control on the river, Lovell found it very difficult to resupply his stores. Further hampering his defense efforts, construction of the Confederate ironclads *Louisiana* and *Mississippi* at Algiers was behind schedule. In addition, Lovell was ordered to send Louisiana's troops to surrounding states, troops he desperately needed to defend the Crescent City. Not provided command of the Confederate Navy fleet, Lovell was, instead, ordered to seize 14 steamboats for the formation of the River Defense Fleet in January 1862. Despite Lovell's efforts, Flag Officer David Glasgow Farragut led the Union Navy past Forts Jackson and St. Phillip in Plaquemines Parish on 24 April 1862 (Dufour 1982:257, 265, 268-269; Hearn 1995:123). Farragut arrived in New Orleans on 25 April and wrote that "The levee of New Orleans was one scene of desolation, ships steamers, cotton, coal, etc. were all in one common blaze" (Dufour 1982:270).

After the fall of New Orleans, Union commanders attempted to take control of the Mississippi and its tributaries to divide the Confederacy and devastate the Southern cotton economy. That summer, Northern forces advanced on Baton Rouge. Unarmed transports carrying troops and supplies up the river frequently came under fire from Confederate sharpshooters in the vicinity of Donaldsonville (Figure 3-16). Even when escorted by heavily armed gunboats, the transports continued to receive an annoying but generally ineffective fire from Southern snipers. Federal gunboats were sent to warn if the fire continued, Donaldsonville and its surrounding plantations would be destroyed. Despite the warning, the sniping continued. Consequently, on 9 August 1862, Admiral Farragut ordered the bombardment of the town after the civilians had been evacuated. It has been estimated that as much as two-thirds of the town was laid waste (Winters 1963:152-153, 157).

To secure Bayou Lafourche and serve as a base for Union operations in the interior, Fort Butler was erected on the shores of the Mississippi River, near the mouth of the bayou, during the winter of 1862. It was constructed of earth and logs, having three bastions on the western side and two near the levee. There were three large gun emplacements, faced with bricks and wooden planks, on each of the land sides. It was surrounded by a moat, with the side facing the river protected only by stockades that ran down to the water's edge (Casey 1983:36).

During the pre-dawn hours of 28 June 1863, Fort Butler was attacked by Confederates under the command of General Thomas Greene. Although a number of the Southerners were able to force their way into the fort, they were not able to cross the deep moat. Rifle fire from the walls of the fort and bombardments of grape and canister from Union gunboats finally forced the Confederate troops and cavalry to retire after inflicting heavy casualties (Winters 1963:290).

After the attack on Fort Butler, there was only minor skirmishing throughout Ascension and the surrounding parishes. Small Union forays were made against guerrilla bands operating in parts of the parish, as well as in nearby Iberville and Pointe Coupée. Generally, the Northern troops were only able to capture a few men, small numbers of

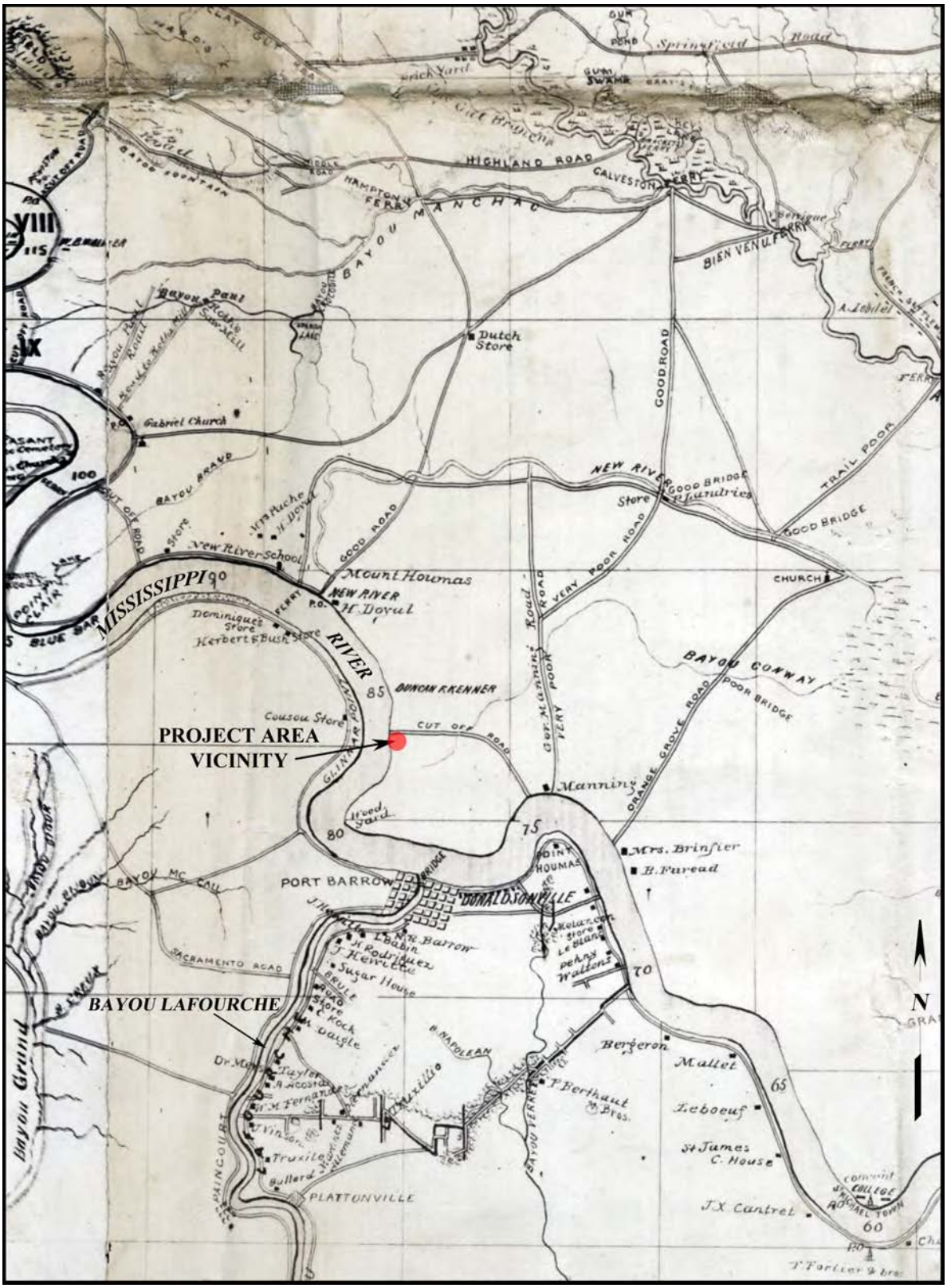

Figure 3-16. Detail of Henry L. Abbot's (2009 [1863]) 1863 "Department of the Gulf Map No. 2: New Orleans to Vicksburg" portraying the project area and vicinity. Note the "Cut Off Road" passing near the project area.

horses, and some arms or provisions each time. These efforts were, for the most part, ineffective in ending partisan activities around Donaldsonville, which continued throughout the rest of the war (Winters 1963:410-411).

Reconstruction and the Late Nineteenth Century, 1865–1900

With the abolishment of slavery in 1865, many small and large sugar planters in Southern Louisiana struggled to make a profit or even retain their land holdings following the war. However, many planters along the Mississippi River were quick to transform the economic makeup of their plantations. For sugar and even rice growers in Louisiana, securing a reliable source of labor became one of the most difficult tasks. Although some African-Americans remained on the sugar plantations following the war, many immigrated to cities, especially those in the northeast and west, to search for a better life. Area planters throughout the region experimented with several labor options, including using Chinese workers in the sugar fields (Swanson 1975:96). Other planters, following a more racially motivated notion, abdicated for the use of Portuguese, Italians, and Germans on sugar estates. Despite these efforts, the importation of Chinese and other immigrant groups proved to be unsuccessful, and African-Americans remained the predominate source of labor for the majority of sugar estates in south Louisiana (Swanson 1975:96).

Another means that planters used to overcome the labor shortage was by using the "Share System" or sharecropping. In this case, the planter would furnish seeds, tools, and land, while the workers furnished their labor, food, and clothes. When the crop was sold, a percentage of the profits would go to expenses, a percentage would go to the laborers, and a percentage would go to the planter (Bouchereau 1872:xii). However, one clear problem with this system was that during a bad crop year, loyal laborers who had toiled in the fields for an entire season received very little or nothing in return. Furthermore, unlike in the wage system, the laborers' profits were not paid until the end of the growing season, thus making living expenses for poor laborers difficult to come by and often forcing the laborers to use extensive credit to maintain their well being. Regardless of the labor system employed following the Civil War, many African-Americans laborers, though no longer held in legal bondage, found their economic circumstance little improved.

Not surprisingly, sugar production fell off dramatically throughout the region during the Civil War and Reconstruction as planters lost their financial resources and their labor force (Ginn 1940:34). In response to these difficulties, some area sugar planters turned their attention to rice cultivation as it was less expensive and less labor intensive than sugar cultivation. The rice industry expanded so quickly during the early post-bellum years that it rapidly became the most important cash crop in the state.

While Kenner benefited from accretion along the riverfront, he apparently made no improvements within the project area. Indeed, the area remained little changed from the 1850s through the Civil War (Figure 3-17). In the late 1870s or early 1880s, the Mississippi River levee was shifted westward in the project area vicinity (Figure 3-18) (MRC 1884). That levee remained the active levee until the early 1930s (MRC 1921, USGS 1939). The old levee and its attendant road, however, remained intact and in place. Between the two levees were grassy fields in the 1880s (see Figure 3-18). Though inside of the levee system, that portion of the project area between the old levee and the slough were not cultivated in the 1880s. Only that portion of the project area east of the slough was then under cultivation. Not surprisingly, it was then used to grow sugarcane (MRC 1884). Kenner, however, was no longer directing operations there, having turned over management of the plantation to his son-in-law Joseph Lancaster Brent during the 1880–1881 season (Bouchereau 1880, 1881). Under Brent's management, much of Ashland was converted to rice production, though sugar continued to be grown there and at Bowden (Bouchereau 1881, 1882, 1883) (see Figure 3-18).

Following Duncan Kenner's death in 1887, his vast estate, including Ashland and Bowden plantations, passed to his heirs. Two years later, the plantations were partitioned and Ashland was sold to Hypolite P. Ousset. Ousset, however, immediately sold the property to George B. Reuss. Reuss renamed the plantation Belle Helene, which was operated under the name of Belle Helene Planting Company, Ltd. Reuss then sold the plantation to the newly formed company (Bouchereau 1892; Goodwin et al 1985:119). Reuss also acquired neighboring Bowden Plantation. Like many of his neighbors, Reuss actively searched for laborers to work his lands. Reuss even went as far as sending recruiters to Sicily to persuade immigrants to move to his plantations (Babson 1989:47).

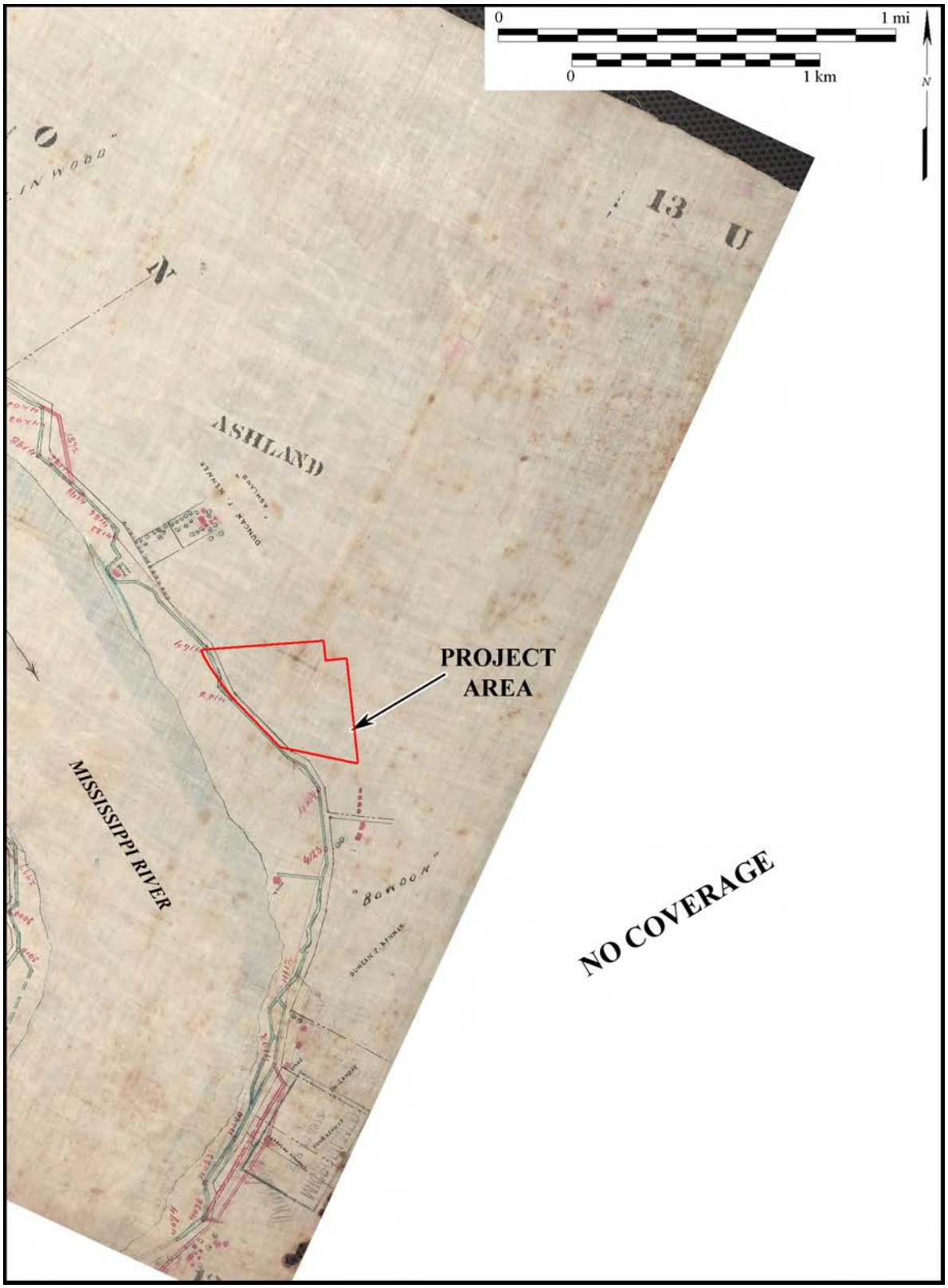

Figure 3-17. Detail of a ca. 1867 Louisiana Board of Public Works (1867) map of the Mississippi River levees from Thomas Point to Carrollton (New Orleans) depicting the project area vicinity. Note the absence of any improvements.

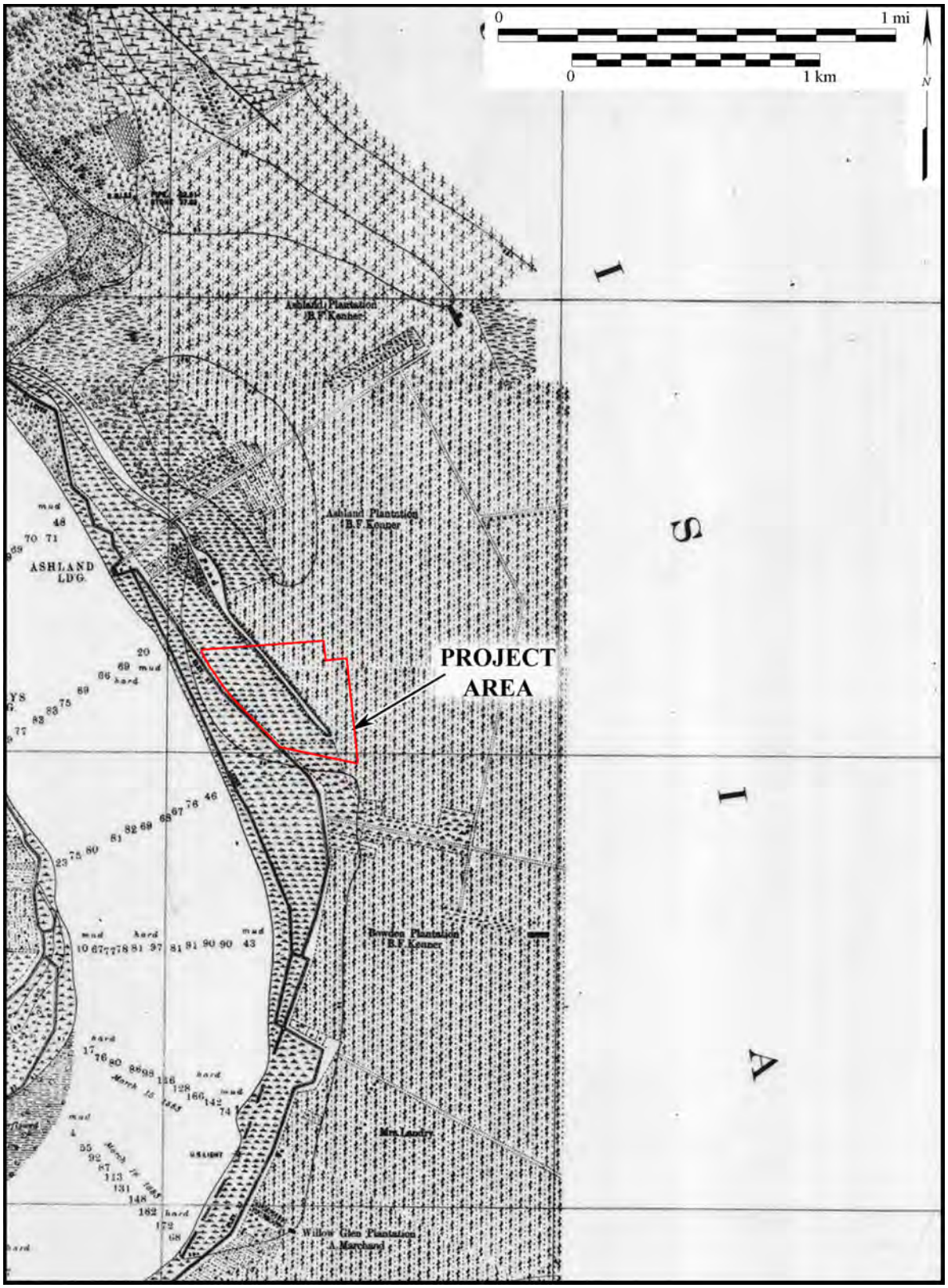

Figure 3-18. Detail of the Mississippi River Commission's (1884) 1884 S*urvey of the Mississippi River* depicting the project area. Note the slough passing through the project area. Note that the active levee had been shifted westward.

Twentieth Century and Beyond, 1900–DATE

By the turn of the twentieth century, timbering, facilitated by the railroads, had largely overtaken sugarcane cultivation in much of South Louisiana. Largely focused on cypress trees found in the region's backswamp, the industry underwent rapid decline once the major tracts of cypress had been cut. Along the river, sugarcane cultivation was still widespread, but not to the extent that it had once been grown, and the ranching of cattle became more commonplace. Though timber was no longer viable for large corporations, smaller companies employing portable sawmills continued to operate in the region into the middle of the twentieth century (Maygarden 1995:74).

In about 1905, Reuss began leasing former Bowden Plantation to Colonel C.D. Gondran and his manager John T. Many (Bouchereau 1904, 1909; *The Louisiana Planter and Sugar Manufacturer* 1907:36). It is not known, however, if their lease included the present project area. Six years later, the Belle Helene Planting Company, Ltd., subdivided their property into 43 parcels, some of which were sold off (Goodwin et al 1985:119) (Figure 3-19). The present project area falls into Parcels 41 through 43, which were apparently retained. Though retained, the property was still leased out.

Beginning in 1914, Bowden was operated solely by Many, though it remained under the control of the Belle Helene Planting Company, Ltd. The company meanwhile continued to operate on Ashland Plantation (Bouchereau 1916; MRC 1921). By 1921, Many was farming Sections 24 through 28 while J.D. Falcon was farming Sections 19-23, including the present project area (Figure 3-20). Although no longer functional, the old levee bordering the project area was still extant. Between it and the active levee was a small pond. North of the pond were two structures near what was then river road. Neither of those structures stood in the project area, which was then devoid of improvements. Indeed, the area was apparently then being used for pasturage.

Between 1921 and 1936, a building, presumably a residence, was erected in the northwest corner of the project area (MRC 1921, 1937) (Figure 3-21). As the levee was set

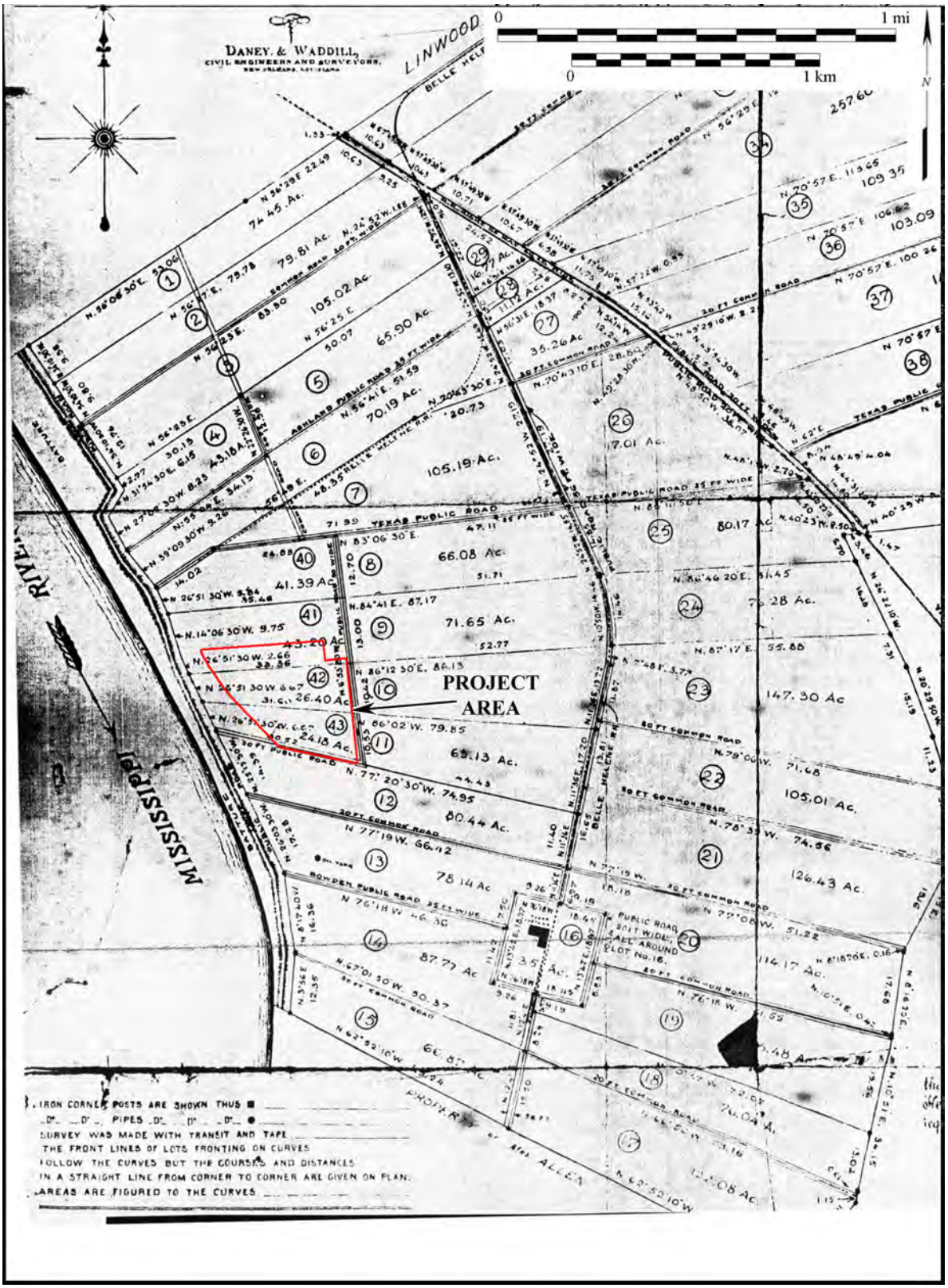

Figure 3-19. Detail of a 1911 Daney and Wadill plan of the "Subdivision of Belle Helene Plantation, in the Parish of Ascension" (Goodwin et al. 1985:127) depicting the project area.

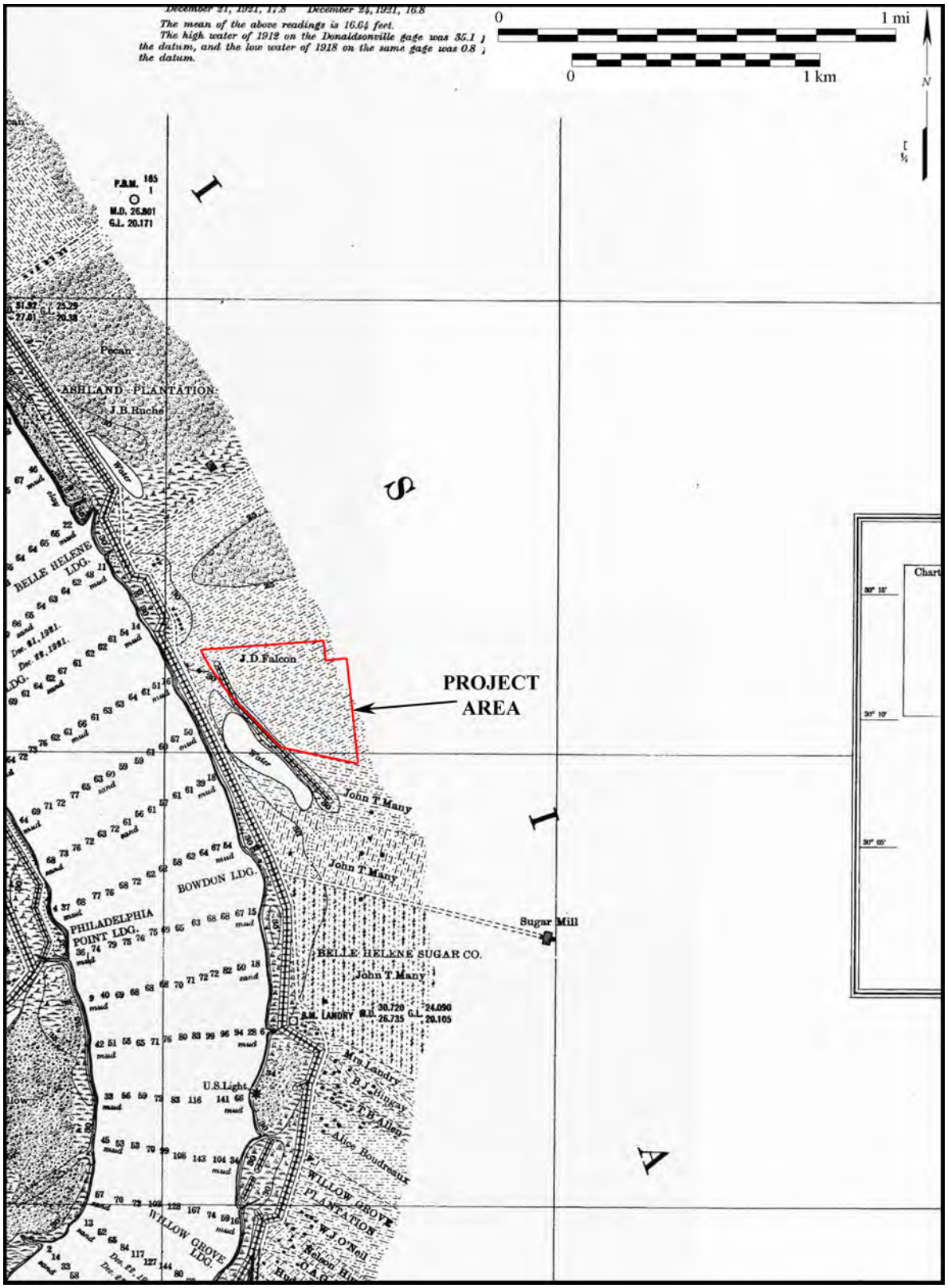

Figure 3-20. Detail of the Mississippi River Commission's (1921) 1921 S*urvey of the Mississippi River* depicting the project area. The project area was then a fallow field bound to the west by the remnants of an early levee (now LA 75).

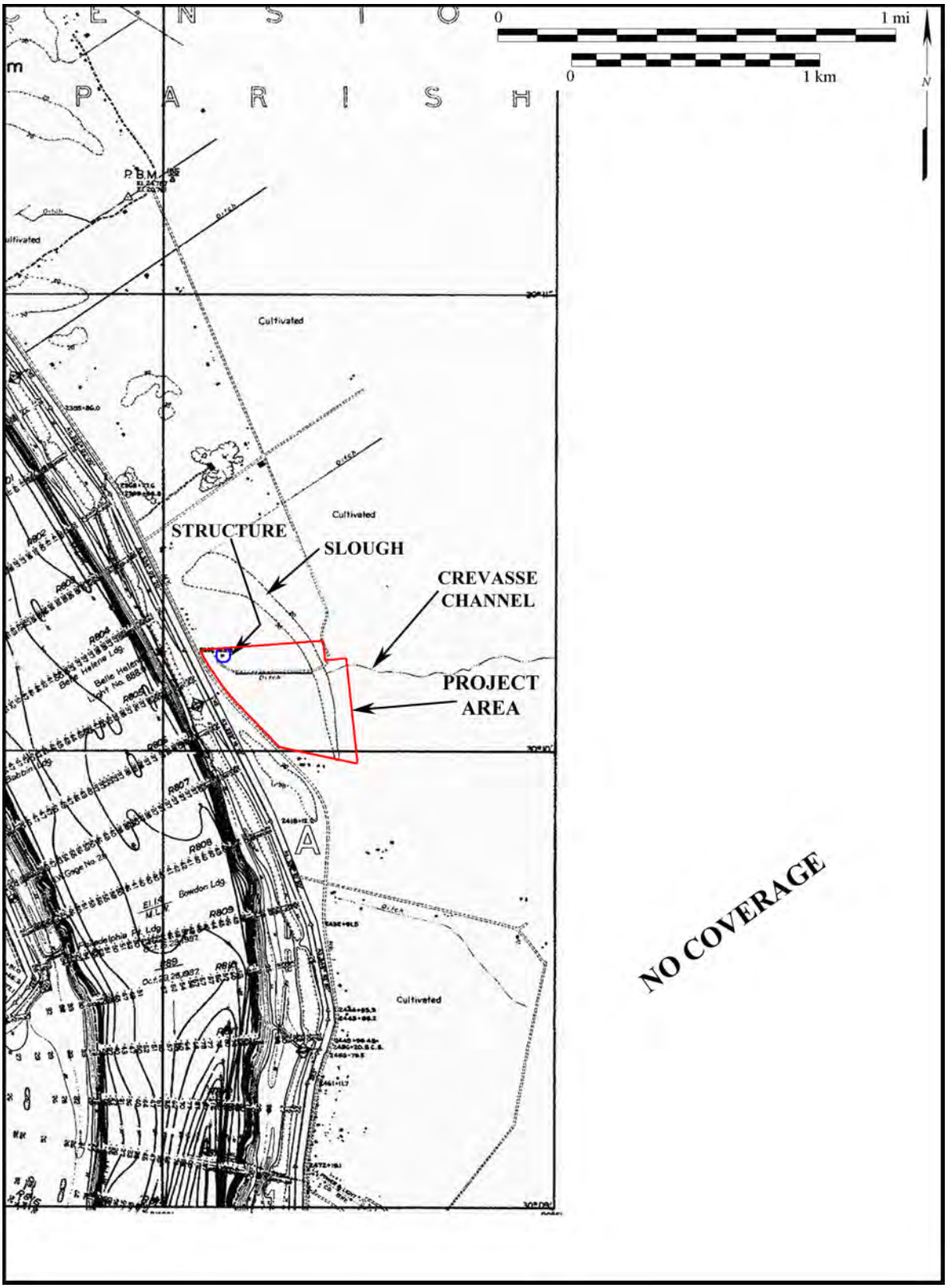

Figure 3-21. Detail of the Mississippi River Commission's (1937) 1935–1936 S*urvey of the Mississippi River* depicting the project area. Note the presence of a structure in the northwest corner of the project area and the old crevasse channel draining to the east.

back during this period, it is possible, if not likely, that this was the same structures that once stood between the two levees and was simply moved to its new location (see Figure 3-20). The abandoned ruins of that structure are still extant. It was soon joined by another structure a short distance to its west (see Figure 3-8). Extending southeast of the structure was a short track leading to a ditch. The track turned eastward there and crossed the slough that still passes through the project area. Opposite the ditch, on the east side of the slough, were the remnants of the old crevasse channel. Then undoubtedly cleared, the surrounding area has since grown up in secondary forest. With the exception of a pipeline ROW that passed through the area prior to 1976 (Spicer et al. 1976), the area has changed very little since the 1930s.

CHAPTER 4

PREVIOUS RESEARCH

Site files and reports housed at the Louisiana Division of Archaeology (LDOA) Louisiana Department of Culture, Recreation and Tourism, were examined in February 2015 to identify previously recorded sites and archaeological surveys conducted within a one-mile vicinity of the project area. That research revealed that 10 cultural resources investigations have been conducted in the area (Table 4-1) and that six sites (16AN26, 16AN59, 16AN61, 16AN93, 16AN94 and 16AN95) already have been recorded in the project area vicinity (Figure 4-1). Only those archaeological sites and surveys conducted on the east bank of the Mississippi River are considered here as all of the previously recorded sites in the immediate area date to the historic time period, specifically to the settlement and operation of Ashland-Belle Helene and Bowden plantations. As discussed elsewhere (see Chapters 2 and 3), the present project area was not habitable until after 1830 and subsequently formed part of both Ashland and Bowden plantations.

In addition to reviewing archaeological files at LDOA, Louisiana Historic Resource Inventory (LHRI) files and National Register files housed at the Division of Historic Preservation (DHP), Louisiana Department of Culture, Recreation and Tourism, were also consulted. In regard to standing structures over 50 years old, the Ashland-Belle Helene main house, a National Register of Historic Places listed property, is located a short distance upriver (see Figure 4-1). As there are no current plans to develop the project area, however, the area of potential effect (APE) was limited to the project area foot print and does not include that property. Only one standing structure has been previously examined within the project area APE, it is discussed below.

Table 4-1. Previous Cultural Resources Investigations Conducted in the Project Area Vicinity.

REPORT NUMBER	TITLE	AUTHOR	LEVEL OF WORK
22-0918	*Mississippi River Cultural Resources Study: A Comprehensive Study, Phase 1, Component B, Cultural Resources Site Inventory*	Greene et al. 1984	Phase I
22-0976	*Cultural Resources Survey of Five Mississippi River Revetment Items*	Goodwin et al. 1985	Phase I
22-1383	*Significance Assessment of 16AN26, New River Bend Revetment*	Goodwin et al. 1989	Phase II
22-1454	*Pillars on the Levee: Archaeological Investigations at Ashland-Belle Helene Plantation, Geismar, Ascension Parish, Louisiana*	Babson 1989	Phase I
22-1830	*Archaeological Data Recovery at Ashland-Belle Helene Plantation (16AN26) Ascension Parish, Louisiana, Volume I: Investigations in the Quarters and Archaeological Monitoring*	Yakubik et al. 1994	Phase III
22-1926	*A Cultural Resources Survey from Sorrento, Louisiana, to Mont Belvieu, Texas*	Skinner et al. 1995	Phase I
22-2358	*Cultural Resources Study Supporting Supplement I to the Final Environmental Impact Statement, Mississippi River Main Line Levee*	George et al. 2000	Phase I
22-2398	*Intensive Cultural Resources Survey of Proposed Enterprise Products Company Pipeline, Ascension, Assumption and Iberville Parishes, Louisiana*	Smith et al. 2001	Phase I
22-3091	*Archival Investigation and Archaeological Test Trenching of the Virgina Storms Tomb (16AN81) and Reconnaissance Level Cultural Resources of a 7.22 ha (18.6ac) Parcel on IMTT Property, Ascension Parish, Louisiana*	Child et al. 2009	Phase II
22-3879	*Phase I Cultural Resources Survey of the Proposed Praxair South Louisiana Hydrogen Pipeline Expansion Project, Ascension, St. James, St. John the Baptist, and St. Charles Parishes, Louisiana*	Kelley 2011	Phase I

Archaeological Surveys

Although not included in the LDOA database, archaeological research in the vicinity of the present project area began with C.B. Moore's 1912–1913 Louisiana and Arkansas expedition. Moore, travelling up the Mississippi River in a steamboat, did not attempt to locate every archaeological site, but, instead, focused on Native American mound sites and burials easily accessible from the river. While Moore did not record any sites in Ascension

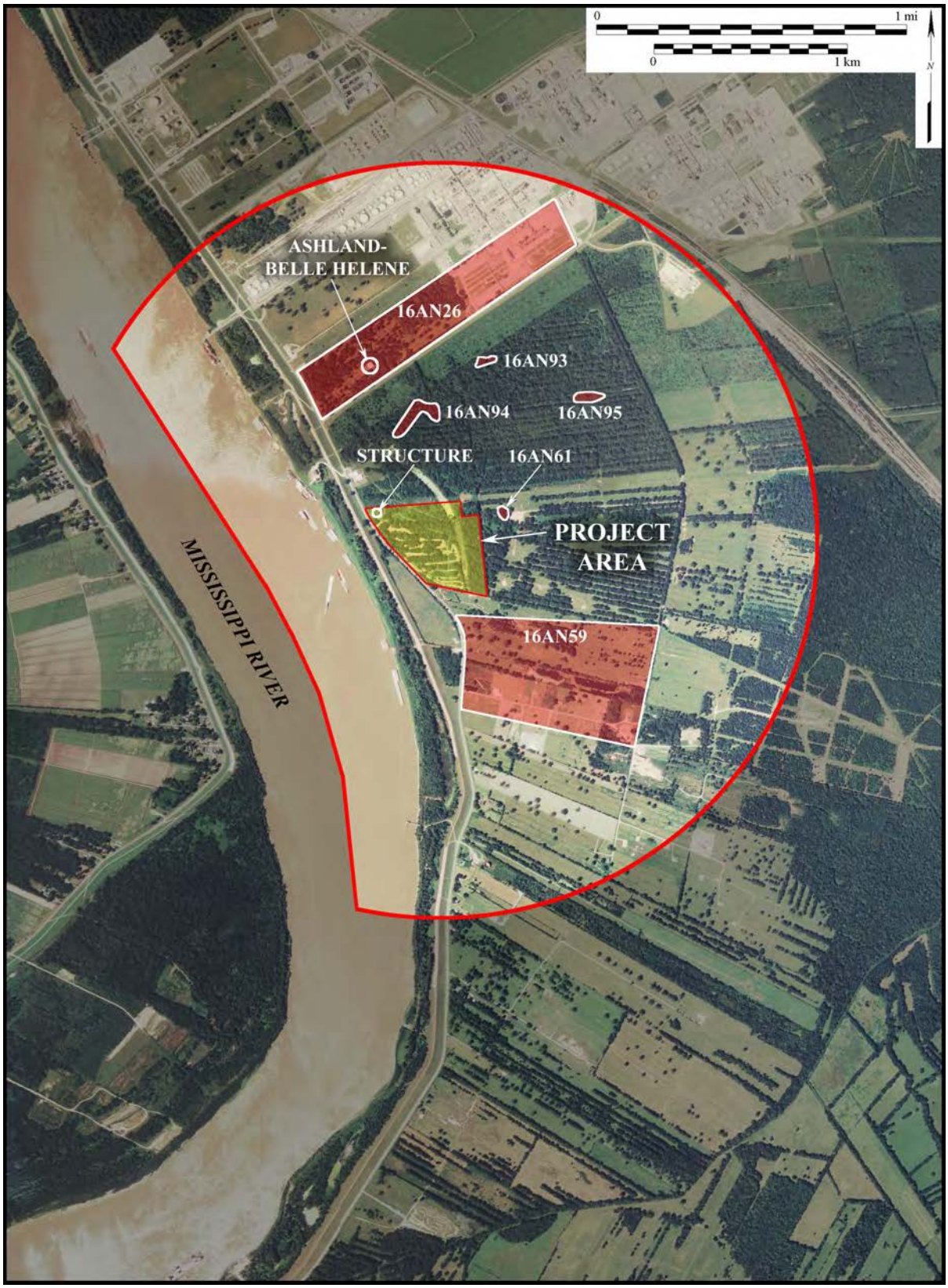

Figure 4-1. Previously recorded cultural resources located on the east bank of the Mississippi River within one mile of the project area (USGS 2012a, 2012b).

Parish, he did describe mound sites in adjacent Assumption Parish (16AS1, 16AS6, 16AS21) and Iberville Parish (16IV4, 16IV5, 16IV13, 15IV15 and 16IV156) (Weinstein et al. 2003).

Twenty-five years after C.B. Moore passed through the area, Fred B. Kniffen (1938), a geography professor at Louisiana State University, visited a number of archaeological sites in Ascension and Iberville parishes. While Moore limited his visits to Native American mounds that were easily accessible by steamboat, Kniffen visited both mounds and middens situated along both large and small waterbodies. Relying on oral informants, Kniffen learned of three mound sites located along the Mississippi River in Ascension Parish. Although Kniffen did not discuss the sites, the map accompanying his report places two of the mound sites in very close proximity to one another on the east bank of the river near Dutch Town and the third on the west bank of the Mississippi River near McCall. The two Dutch Town area sites recorded by Kniffen (1938:Figure 22) are undoubtedly 16AN1 and 16AN2. The third site visited by Kniffen is unknown, but would have been located in the vicinity of 16AN18 through 16AN22—all of which were recorded as historic-period plantation sites. None of these sites are within one mile of the current project area.

Not noted by Kniffen in 1938 was 16AN3—Mount Houmas. Located at Geismar, between 16AN1 and 16AN2 and the present project area, the site consists of a mound that was formerly topped by an antebellum home. In 1888, it was noted that Mount Houmas "was originally acquired from the Houmas Indians, and takes its name from the numerous mounds thrown up by that tribe of aborigines on its surface" (Brown 1888:5). The accuracy of that attribution is unknown as 16AN3 has never been examined archaeologically. Like 16AN1 and 16AN2, Mount Houmas lies outside of the study area.

Archaeological research continued throughout the 1940s and 1950s as various people recorded sites in the region, though few were located near the current project area. Sherwood Gagliano (1963) summarized a number of surveys conducted in the late 1950s and early 1960s that focused on preceramic occupations in the region. His work became the framework for the current preceramic chronology in southeast Louisiana. Also in 1963, Roger T. Saucier (1963) published a report on the recent geomorphic history of the Pontchartrain Basin, in which he discussed prehistoric sites in the region.

During the mid-1970s the number of archaeological research investigations increased across Louisiana due to newly passed Federal regulations regarding the preservation of cultural resources. A majority of the research in the vicinity of the project area has come in the form of pipeline and levee surveys conducted as a result of the passage of Section 106 of the NHPA of 1966, as amended. Most of the cultural resources investigations conducted in the project area vicinity, however, were conducted during the 1980s and later between 2000 and 2009 (see Table 4-1). Several such cultural resource surveys of particular archaeological significance have been conducted within one mile of the present project area, and a number of archaeological sites have been recorded, which are discussed below.

Previously Recorded Archaeological Sites

The 10 cultural resources investigations previously conducted in the study area resulted in the recordation and/or examination of six archaeological sites—16AN26, 16AN59, 16AN61, 16AN93, 16AN94 and 16AN95 (see Figure 4-1). These sites are briefly described below.

Ashland-Belle Hellene Plantation (16AN26)

Douglas Hayward originally recorded the Ashland-Belle Hellene Plantation site (16AN26) in 1979 (see Figure 4-1), about the same time that the house and grounds were nominated for the National Register of Historic Places. In 1984, R. Christopher Goodwin & Associates, Inc., surveyed the construction footprints of five Mississippi River revetment rights-of-way for the U.S. Army Corps of Engineers, New Orleans District (Goodwin et al. 1985). A total of eight sites were visited, though only one, Ashland-Belle Helene Plantation (16AN26), was near the current project area (see Figure 4-1). Goodwin et al. (1985) conducted the first archaeological investigation of the site, uncovering two features associated with the plantation: a large brick scatter and a brick foundation, likely from a sizeable storage facility. They later revisited the site in 1989 to conduct testing of the two previously recorded features, as well as the remains of an old levee (Hinks et al. 1989). Their study determined that all three features were not archaeologically intact and warranted no further research.

In 1994, Earth Search, Inc., conducted a Phase I survey of the 102-acre parcel of Ashland-Belle Helene Plantation then owned by Shell Chemical Company (Maygarden et al. 1994; Yakubik et al. 1994). During these investigations, two principal areas were identified for data recovery in the rear half of the property: the slave and tenant quarters, which consisted of the remains of 18 cabins; and the plantation's sugarhouse. Eighty-nine 1-x-1 meter units were excavated within two of the cabins and a majority of the sugarhouse area was uncovered with the aid of a backhoe. The quarters area and sugarhouse in the rear half of the site were destroyed following these extensive investigations. The front half of the site was still considered eligible according to the site update form produced as a result of this project; it recommended monitoring of any proposed work surrounding the great house at the front of the property.

R. Christopher Goodwin & Associates, Inc., subsequently revisited the site between July 1997 and January 1999 (George et al. 2000). They determined that the grounds surrounding the Ashland-Belle Helene Plantation house were "potentially significant."

Bowden Plantation (16AN59)

Bowden Plantation, located immediately downriver of the present project area, was recorded as archaeological site 16AN59 by Philip G. Rivet in 1996 (see Figure 4-1). The site includes the plantation's sugarhouse, quarters and ancillary buildings. Site investigations in 1996 were limited to a random metal detector survey, which resulted in the recovery of axe heads, hoe blades, housewares, coins and a harmonica fragment (LDOA site files, 16AN59). Although cultural remains were located, a determination of National Register eligibility for the site was not established.

The site was revisited in 2001 by Earth Search, Inc. (ESI) (Smith et al. 2001:80). Based upon ESI's shovel testing program carried out within the Bowden Plantation quarters complex (Locus 1), it was recommended that those remains were potentially eligible for nomination to the NRHP. That recommendation was based upon apparent *in situ* remains associated with the nineteenth and twentieth century occupation of the quarters. Examination

of part of the site along River Road in 2001, however, did not locate significant cultural remains there, and that area was cleared from future research. Notably, ESI's 2001 investigations did not encompass the plantation's sugarhouse area, and the National Register status of that locus remains unknown. That area, as well as the remainder of the site, require further examination to determine their National Register eligibility.

Abe Hawkins (16AN61)

The Abe Hawkins site (16AN61), located immediately east of the present project area (see Figure 4-1), was recorded by Chris Hays in 1997. Covering a relatively small area of 10 m by 10 m, the site consists of one or more human burials in a small cemetery located on the banks of a former crevasse channel. The cemetery may be the last resting place of Abe Hawkins, for whom the site is named. Hawkins, who died in circa 1867, was a jockey for Duncan Kenner. Kenner, in turn, was the owner of Belle Helene Plantation, of which the site was then part. With the presence of the apparent remains of a brick tomb, the site was assessed as being potentially eligible for inclusion to the National Register (LDOA site files, 16AN61; Smith et al. 2001:30).

Avalon SA-3-01 (16AN93)

In 2013, URS Corporation conducted a Phase I cultural resources survey of the 138-ac Avalon Rare Metals, Inc., Leaching and Separation Plant project area (Handley et al. 2013), which abuts the present project area to the east. Included in that survey was an access road leading to River Road (LA 75). That access road passes through the current project area.

The URS survey located three archaeological sites, including 16AN93 (see Figure 4-1). Pedestrian survey and shovel testing revealed four cultural features, only one of which was found to be *in situ*—an apparent brick-lined irrigation feature (Feature 2). Shovel testing of the site yielded only architectural debris. Although the site was assessed as dating to the nineteenth century and possesses intact features (Feature 2), it was found to have very limited research potential. As such URS recommended that the site was not eligible for

inclusion on the NRHP (either archaeologically or architecturally) and that no further work was required there (Handley et al. 2013:40). The Louisiana State Historic Preservation Officer (SHPO) agreed with that recommendation (Pam Breaux [SHPO] to Martin Handley, 8 December 2014).

Avalon SA-3-02 (16AN94)

Site 16AN94 was recorded as part of the URS Corporation 2013 Phase I cultural resources survey of the Avalon Rare Metals, Inc., Leaching and Separation Plant project area. The irregularly-shaped, nineteenth century site consists of a rectangular depression and several low-density artifact scatters. Most (*n=154*) of the 166 artifacts recovered from the site consist of construction material. The few non-construction artifacts present in the collection includes sherds of early-nineteenth century ceramics. Based upon archival research and the results of their fieldwork, URS Corporation suggested that the site could represent a stable house (Handley et al. 2013:44-47). Indeed, the circa 1847 A.J. Powell map of Ashland Plantation (Babson 1989:17) depicts three structures to the immediate north of site 16AN94, one of which was a stable (see Figure 3-14). While structures are depicted in that same area on the 1884 Mississippi River Commission (1884) map (see Figure 3-18), by the late 1930s there were at least two structures extant within the limits of site 16AN94 (USGS 1939) (see Figure 3-8). The functions of those structures are unknown.

No *in situ* cultural remains were found at site 16AN94 in 2013. Lacking intact remains and with only limited artifacts present, URS recommended that the site was not eligible for inclusion on the NRHP and that no further work was required there (Handley et al. 2013:47). The SHPO agreed with that recommendation (Pam Breaux [SHPO] to Martin Handley 8 December 2014).

Avalon SA-3-03 (16AN95)

The third site examined by URS Corporation in 2013 was 16AN95 (Handley et al. 2013:49-54). The site consists of a low-density scatter of nineteenth and twentieth century

domestic artifacts and construction debris found about .7 km northeast of the present project area. One feature was noted during the site examination, a non-articulated brick pier in a disturbed context. Based upon low artifact density and the lack of *in situ* deposits, URS Corporation recommended "no further assessment of this site" (Handley et al. 2013:54). The SHPO agreed with that recommendation (Pam Breaux [SHPO] to Martin Handley 8 December 2014). It should be noted, however, that the site extended outside of the URS project area and "was not completely delineated" (Handley et al. 2013:54).

Examination of archival maps (e.g., MRC 1884) indicates that site 16AN95 is located adjacent to one of the former quarters areas on Ashland Plantation (see Figure 3-18). Known as the Texas Quarters, that complex of buildings extended to the east, well outside of the URS Corporation project area. Although the quarters had been removed by the 1930s, one structure stood at the site location in circa 1936 (USGS 1939). While the twentieth century material recovered by URS is likely associated with that structure, the earlier artifacts recovered from 16AN95 are more likely associated with the occupation of the Texas Quarters.

Previously Recorded Standing Structures

As noted above, there are no current plans to develop the property, and the APE for indirect effects has been limited to the project area footprint. In 2013, URS Corporation recorded one standing structure over 50 years in age within the current project area as part of their Avalon Rare Metals, Inc., Leaching and Separation Plant survey (Handley et al. 2013) (see Figure 4-1). Recorded with the temporary identification number of SS-SA 1.1-01, the circa 1895 vernacular cottage is located in the northwestern corner of the present project area. Though maintaining its "original form, massing, and some of its modest architectural detailing," the abandoned dwelling was found to be in poor condition (Handley et al. 2013:35).

Though URS Corporation argued that the structure retained its locational integrity, it should be noted that the dwelling was moved to its current location in circa 1930 (MRC

1921, 1937; USGS 1939) (compare Figures 3-20 and 3-21). It is possible, if not likely, that the recorded building originally stood a short distance to the west, between LA 75 and the Mississippi River levee (see Figure 3-20). That structure was apparently built between 1884 and 1921 (MRC 1884, 1921), which matches the circa 1895 date of construction quite well. Ironically, when the building was moved in circa 1930, it was moved to the same area as the building cluster depicted on the circa 1847 A.J. Powell map of Ashland Plantation (see Figure 3-14). That cluster of buildings was removed during the 1850s (Humphreys and Abbot 1858; Louisiana Board of Public Works 1867). Regardless, URS Corporation argued that the building was not eligible for inclusion on the NRHP and that no further work was required (Handley et al. 2013:35). The SHPO agreed with that recommendation (Pam Breaux [SHPO] to Martin Handley 8 December 2014).

It should be noted that the Ashland-Belle Helene main house, which is listed on the NRHP, is located some 725 m or 2,378 ft upriver from the project area (see Figure 4-1), well outside of the project APE. It is currently screened from the project area by a vegetative barrier. No other National Register properties are located in the immediate vicinity of the project area.

CHAPTER 5

ANALYTICAL TECHNIQUES

This discussion presents the descriptive typology used in the analysis of the artifactual material recovered during the course of this study. This typology is intended to provide basic descriptive, and, by extension, temporal information for recovered artifacts. Three main classes of historic artifacts are considered here: historic ceramics, glass and metal. Each of these classes is described more fully below.

Historic Ceramic Analysis

There are a number of historic ceramic types, each with a variety of possible decorative techniques. Five major categories of ceramics were developed for this study—coarse earthenwares, semi-refined earthenwares, refined earthenwares, stoneware, and porcelain. Although not every type of ceramic ware was necessarily encountered during the course of this project, all are discussed here so that the reader can attain a broader understanding of those that were recovered.

Coarse Earthenwares

Coarse earthenware is a broad category that encompasses low-fired ceramics employed primarily as utilitarian vessels. Because of the porosity of the body of these wares, they were normally covered with impermeable glazes and/or slips to make them usable as containers for liquids. Lead-glazed coarse earthenwares frequently occur as hollowware (i.e., bottles, bowls, jugs, jars, shallow pans, etc.). Archaeologists currently know little about the

precise chronology of lead-glazed earthenwares since they were in use from the sixteenth through the nineteenth centuries (Noël Hume 1969:102).

The glazes of tin-enameled coarse earthenwares are actually lead glazes that have been combined with a tin oxide. These wares typically have a thick white to bluish-white glaze that crazes easily and often exfoliates from the body of the wares. They were produced throughout Europe and parts of the New World and called Faience, Majolica, or Delft, depending on their place of origin. In French dominated South Louisiana, Faience from France, is by far the most common tin-enameled coarse earthenware. In English occupied territories, however, Delft tends to be the more common ware. Majolica, meanwhile, is most often found in northwest Louisiana, near the Texas border. Tin-enameled wares were sometimes left undecorated but were often decorated through hand-painting or other means.

Semi-Refined Earthenwares

Semi-refined earthenwares consist primarily of high-fired redwares and yellowwares and are typically used for utilitarian purposes (i.e., bowls, chamber pots). Semi-refined redwares exhibit a red, semi-vitrified paste of a texture not dissimilar to refined earthenwares. Redwares of this category are typically lead glazed and undecorated, though the interiors are sometimes slipped white. Yellowware is so named because of its clear lead-glazed yellow paste. These wares, often decorated with annular motifs, were manufactured between circa 1830 and 1900 (Abernathy n.d.; Liebowitz 1985).

Refined Earthenwares

Refined earthenwares are fine-paste wares that are particularly valuable for dating late-eighteenth and nineteenth-century sites because of relatively rapid advances in ceramic technology during this period. There are three basic types of refined earthenwares: creamware, pearlware, and whiteware. Although these terms meant little, if anything, to the potters who produced the wares (Miller 1980), they are useful to archaeologists wishing to better understand the chronology of a site.

Creamware

Creamware, the earliest refined earthenware, features a molded, cream-colored body and a cream to yellowish-green lead glaze. First produced in England during the mid 1700s, creamware became the most common tableware in Britain and her colonies during the last quarter of the eighteenth century. Most of the creamwares found in archaeological sites are undecorated; however, hand-painted, transfer-printed, and annular decorated types infrequently occur. The lack of decoration on creamwares is largely a function of the technology of the period—early potters did not have access to pigments that were stable at the temperatures necessary for glazing the vessels. However, it was possible, though infrequent, to apply the decoration to the vessel after it was glazed. Decorations of this type were expensive to produce and easily wore off. Consequently, they were not particularly popular.

Pearlware

Experiments with ceramic clays and glazes during the last three decades of the eighteenth century led to the development of whiter, refined earthenwares, commonly referred to as "pearlwares." Pearlware, manufactured from about 1780 to 1840 (Loftstrom 1976), differs from creamware in that the Derbyshire cherts used in the ceramic paste produced a whiter body. Additionally, the lead glaze of pearlware was lightly tinted with cobalt to whiten the yellowness of the clear glaze. Because of the latter factor, pearlwares exhibit a light-bluish cast in the glaze, particularly in glaze puddles found at basal rings or at handle attachments. It should be noted here, however, that turn-of-the-nineteenth-century glaze and body experimentation also led to the development of a number of creamware/pearlware transitional pieces. These wares have a more greenish glaze than typically found on creamware pieces, but not the greenish-blue of true pearlwares. Although accurate dates have not been established for these transitional wares, late creamwares likely date from about 1780 to 1820.

George Miller (1980:15-16) suggests that pearlware was developed to take advantage of the declining creamware market and to produce a ware that better resembled porcelain,

which at that time had a bluish cast. The success of this ware was insured by high tariffs on imported porcelain and the rights gained in 1775 to use Cornish china clay in wares other than porcelain (Miller 1980:15, 16). To further promote the sale of pearlware, potters relied heavily on the decoration of their ware (Miller 1980:16) and the growing popularity of blue-painted and transfer-printed decorations (Noël Hume 1972:240). Simply speaking, blue decorative motifs appeared more attractive on bluish pearlwares than on yellowish creamwares. Pearlwares generally replaced creamwares around 1810, although creamware was produced for about another 10 years. As pearlware began to be favored over creamware by 1810, pearlware is the most common ceramic type found on early-nineteenth-century Euro-American sites. Pearlwares host a variety of decorative treatments, including annular, hand-painted, and transfer-printed designs. Although small sherds may contain no decoration, pearlware vessels are seldom undecorated (Miller 1980:16).

To further complicate understanding of early nineteenth century ceramic production, some ceramics have a deep blue cast without the green tingeing found on pearlware, but with the same decorative treatments. Considerably darker than early whitewares (see below), these wares may be late pearlwares; conversely, they may represent better efforts at matching early imported porcelains. If the latter is true, these wares most likely date between 1780 and 1815.

Early Whiteware

During the first quarter of the nineteenth century, bone china became favored over earlier porcelains that had a bluish cast (Miller 1980:17). As preference grew for white porcelain, so did the desire to produce a white earthenware. By the early 1830s, pearlwares were replaced by large quantities of improved whitewares. As the name implies, whitewares have a white body and a clear, lead glaze that does not display the bluish tint found on pearlwares. Many of the early whitewares have forms and decorations similar to those found on pearlwares. Because of this, and the fact that whitewares grew out of continued experimentation with pearlware pastes and glazes, it is often difficult to distinguish late pearlwares from early whitewares (Miller 1980:16). Indeed, even the potters themselves did

not make a distinction between the two types of wares (Miller 1980). As a result, many archaeologists present these transitional refined earthenwares as a separate type, labeled "early whiteware." Early whiteware, which has an overall white cast and blue puddling, most commonly dates from about 1820 to about 1840. Moir (1987:102) argues that these wares may date as late as 1865, although he has found that most examples date from the 1830s to the 1850s. Price (1982:14) likewise suggests that, while the pearlware-to-whiteware change occurred in 1820 or 1830, whitewares with blue puddling were produced as late as the 1860s.

Transfer-printed wares were particularly popular in the second quarter of the nineteenth century. Though also found on pearlwares and white improved earthenwares, the period of popularity of transfer-printed decorations closely corresponds with the production of early whitewares, and these types of wares are commonly recovered from 1830–1850 deposits. There has been growing interest in the identification of transfer-printed wares as both collectors and archaeologists have come to realize that otherwise unattributable and undateable wares could be specifically associated with a manufacturer through pattern recognition.

Whiteware, Ironstone, and Ivory-Tinted Whiteware

Mid-nineteenth-century whitewares generally exhibit high frequencies of decorated types, including annular, hand-painted, and transfer-printed decorations. As the nineteenth century progressed, there was a growing tendency for decorated whitewares to be replaced by undecorated whitewares. One variety of whiteware, termed ironstones, were seldom decorated, with the exception of designs molded into their bodies. Ironstone, with dates of manufacture ranging between 1840 and 1910, may exhibit a blue tint to its glaze. The bluish tinted ironstones possess a "cold blue" tint that is different from the "soft" blue tint that is found on earlier refined earthenwares. Ironstone has a harder and heavier paste than other types of whitewares and, because its glaze and paste are of similar composition, ironstone glazes often do not craze as do other refined earthenwares. Ivory-tinted whiteware, most popular from around 1900 to 1930, possesses an off-white to a cream-colored tint similar to

creamware, but due to the lack of lead in the glaze this ware is not easily mistaken for creamware in that the hue and the crazing are noticeably different (Moir 1987:102).

Plain wares were in vogue for only a very short period and by the 1890s the demand for decorated wares began to increase. Light repoussé floral and geometric patterns, gilted, and decalcomania designs became common decorative techniques used on both whitewares and ivory-tinted whitewares of the very-late nineteenth and early twentieth centuries. By the late nineteenth century, however, most hollowware vessels made of ironstone were decorated with a heavy relief-molded design. Ironstone flatwares, meanwhile, continued to be undecorated. The majority of all whiteware sold in the United States prior to 1880 was produced in England. Tariffs placed on imported ceramics during the 1880s and early 1890s, however, made domestic wares a viable alternative to consumers. The McKinley Tariff Act of 1891 was particularly helpful in making American ceramics competitive with their English counterparts (Kovel and Kovel 1986:202). The result of these tariffs was that by the late 1890s the vast majority of ceramics purchased in the United States were produced domestically.

Stoneware

Stoneware was generally used for the production of utilitarian vessels, such as crocks, jars, and butter churns. Utilitarian stonewares are distinguished by their thick, fine-grained body, ranging in color from light gray or buff to dark gray or brown, depending on the materials and manufacturing technique used. Stonewares were sometimes left unglazed but were most often glazed with salt, natural slips, or chemical slips (e.g., Bristol). Although volcanic ash and alkaline glazes were also used, the three former glazes were far more popular in most areas of the United States.

Domestic utilitarian stoneware was produced throughout the nineteenth century and well into the twentieth. The production and popularity of stoneware decreased dramatically after about 1910, as it was replaced by other types of containers, especially metal and glass. Stoneware, in and of itself, is not a very good temporal indicator, as it generally reflects the

heavy usage of the ware in the last half of the nineteenth century. The glazes used on stonewares, however, are often useful temporal indicators, particularly in the very late nineteenth century. After the turn of the twentieth century, however, the usefulness of stoneware glazes as temporal markers decreases dramatically, as few changes were made to manufacturing techniques after that date.

Not all stonewares served utilitarian functions. Indeed, many decorative wares of the late eighteenth and early nineteenth centuries were dry-bodied stonewares. Aside from Jasperwares, one of the most common types of dry-bodied stonewares was Black Basalt. Similar in form to the refined earthenwares of the day, these highly-refined, black-bodied wares were often used as table serving pieces (e.g., tea pots, sugar boxes, etc.) and for elegant decorative pieces (e.g., vases, bulbpots). Partly out of function and partly because of aesthetics, Black Basalt wares were seldom glazed. Relatively expensive to produce and treated as special display pieces, they are not often recovered from archaeological settings. Introduced to the consumer market in 1768, Basalt wares were particularly popular between 1785 and 1795 (Edwards 1994:25, 89). Although the popularity of these wares waned considerably after 1820, they are still produced today.

Porcelain

Porcelain was first produced in China in about the seventh century; however, it was not until about 1600 that Chinese porcelain fully entered the European market. Porcelain, though expensive, quickly gained favor among Europe's elite, and potters there began trying to duplicate those wares. While the first European porcelain was produced in Italy during the late sixteenth century, wide scale production did not begin in Europe until the early eighteenth century. English porcelain, meanwhile, was not manufactured until 1744. Chinese porcelain continued to be imported into Europe through the mid and late eighteenth century, but the popularity of Chinese porcelain began to wane as the new English wares came into favor during the 1770s. Protected by high tariffs, English porcelains soon overwhelmed sales of Chinese porcelain and bulk importation of the Chinese wares into England ceased in the 1790s. At the same time, Chinese import porcelains were brought directly to the United States by American merchants as early as 1784 (Battie 1990:55, 63-65,

86-88). Although not as popular as European (and later American) porcelains, Chinese export porcelain was available in the United States through most of the nineteenth century.

The first English porcelains were not true porcelains and had a soft paste of white clay and ground glass fired to a temperature of only 1100°C. Hard paste porcelain, a mixture of kaolin and china rock fired to 1400°C, was not produced in Europe until 1768. Although hard paste porcelain was preferred over soft paste, both continued to be produced until the early nineteenth century. Indeed, almost all English porcelain produced prior to 1780 was soft paste porcelain. In about 1794, bone china, comprised of kaolin and bone ash, was developed by Spode Pottery in England. With a stable, pure white body, bone china quickly gained favor with the public and largely replaced the earlier porcelain types by 1812 (Battie 1990:109, 116, 144; Miller 1980:17). Parian, a type of unglazed biscuit porcelain, was first manufactured in England in 1845 (Battie 1990:197) and is used primarily for sculptural figurines.

Porcelains were often left plain or were hand painted (enameled) and/or transfer printed both over and under the glaze. Hand painted porcelains were produced very early in China and both it and transfer printing were used on English porcelains soon after those wares were developed. Because of the long production history of these wares and the difficulty in identifying fragmented archaeological collections, porcelains are often not particularly useful in dating nineteenth or twentieth century deposits.

Glass Analysis

Bottles are particularly useful in dating late-nineteenth and early-twentieth-century sites because of a rapid sequence of technological improvements in the bottle manufacturing industry between about 1850 and 1940. One difficulty with using glass-bottle manufacturing techniques for dating sites is that initial and terminal dates for several of the manufacturing techniques are often imprecisely known. An associated problem is that some nineteenth and early-twentieth-century techniques continue up to the present day. Although the occurrence of lingering techniques is negligible in view of the quantity of bottles produced, it must be taken into consideration when dating a site.

At the beginning of the nineteenth century, the two most common techniques of producing bottles were the free-blown and the dip-molded methods. The production of free-blown glass required the use of a blow-pipe to expand the glass to the desired shape, and the pontil rod, which, when attached to the base of the bottle, permitted neck finishing. Free-blown bottles are asymmetrical and seamless, and often bear a rough pontil mark or scar, on the base.

Dip-mold bottles were blown into a tapered mold and finished by hand. These bottles were more symmetrical than free-blown products. Hand finishing required the use of a pontil rod, resulting in a pontil scar on the base of the bottle. The mold often leaves a horizontal mold seam around the body of the bottle near the shoulder. Most popular between 1790 and 1810, dip molds continued in use, particularly for wine bottles, well into the nineteenth century (Lorrain 1968; Toulouse 1969a).

The next major development in bottle technology was the introduction of the three-piece mold, of which there were two types: one was simply a dip mold with a hinged mold on top which finished the neck area; the second consisted of three hinged pieces set approximately 120 degrees apart. The latter type, called a three-piece leaf mold, left three vertical mold seams on the vessel's sides and was generally reserved for highly decorated bottles or art glass (Toulouse 1969b). There is some disagreement concerning the appearance date of the three-piece mold. Jones (1971) credits the development to the H. Ricketts Company of Bristol in 1821, whereas Lorrain (1968) writes that it appeared around 1810 but was replaced in the 1840s. However, Toulouse (1969b) has stated that the three-piece mold was in common use between 1870 and 1910.

With the introduction of hinged molds in the nineteenth century, bottom molds became common. There were two types of bottom molds, post bottom and cup, the former being the earlier of the two. The cup-bottom mold was more common on machine-made bottles, although it appeared on molded bottles around 1880 (Munsey 1970:249). The post-bottom mold plate has a raised central platform called the post, which forms the ring seam on the bottom of the bottle. For the cup-bottom mold, the entire bottom of the bottle is formed

by the mold plate, which is shaped as a slight depression or cup (Toulouse 1969b). Post-bottom mold bottles have side seams that continue onto the base of the bottle where they join the ring seam. Cup-bottom mold bottles have no seams at or on the bottom, rather they have a horizontal seam just above the heel.

Two varieties of a two-piece hinged mold came into use around 1840. The hinged-bottom mold, which appears to be the older, had its two halves hinged at the bottom. It produced a seam that ran straight across the bottom of the bottle. Introduced as early as the 1750s in England (Jones 1971), this mold continued in use into the 1880s. The side-hinged mold was the second variety. It produced bottles with either a cup-bottom or post-bottom mold and side seams that extended from the bottom mold seam to the neck.

All of the above manufacturing techniques required the lip finish to be performed by hand. Hand finishing required the use of a pontil rod, to hold the vessel while the lip was modified. The pontil rod was generally replaced after 1857 with the invention of the snap case, an instrument of four curved, padded arms that were clamped around the bottle. The use of the snap case can safely be assumed when a bottle has a hand-finished lip and seams, but no pontil mark (Lorrain 1968). It should be noted that the pontil rod continued to be used for some time after the introduction of the snap case in 1857 (Riordan 1981), although its frequency of use gradually declined. Until about 1870, lip finishes were limited to folding the glass neck over or by placing a "string" of glass around the mouth of the bottle. About 1820 a tool was developed in England to form the lip of the bottle into a variety of lip types. Lipping tools, however, were not extensively used in the United States until the 1850s. These two developments enabled glass blowers to produce a "clean," attractive bottle much more easily than had been previously possible.

The next major development in glass-bottle technology did not appear until the 1880s, when a workable, semi-automatic, bottle-making machine was introduced (Miller and Sullivan 1984:85). The "semi-automatic" designation refers to the fact that glass had to be brought to the machine by hand. A portion of the gathered glass was severed by a pair of shears. The first semi-automatic machines appeared as early as 1882. They were not

functional for large-scale production, but did allow the production of machine-made bottles. Michael J. Owens developed the first commercial automatic bottle machine in 1903, and by 1904 was installing his machine in several factories (Walbridge 1920:67-71). Machine-made bottles did not immediately replace all mold-made bottles, as the latter continued to be made in for over a decade following the introduction of Owens' machines. By 1917, however, 90 percent of all glass vessels were made by machine (Miller and Sullivan 1984:88, 89).

Although glass color may also be used for dating, wide date ranges for the various colors often do not permit useful analyses to be made. For instance, olive and olive-amber colored glass was used throughout the eighteenth and nineteenth centuries, even though both began to fall out of favor in the 1870s. It should be noted, however, that clear glass was not in common usage until after 1870 when food processors began to use glass vessels for their products and did not want tinted glass to affect the visual impact of their product. It was at that time that manganese was added as an oxidant to glass. Although the addition of manganese to the glass allowed the production of clear vessels, sustained exposure to sunlight of those vessels produces a clear-purple tint. Manganese was used as an oxidant until World War I when it became a strategic war material and had to be replaced by another oxidant—selenium. Like manganese, the addition of selenium yielded clear glass. Also like manganese, when exposed to sunlight, selenium vessels become solarized and become yellow-tinted. Selenium was used as an oxidant until the 1930s. Finally, milk glass was first produced in France in the 1820s. Quite successful, milk glass was at its peak popularity in the United States from 1895 until 1910 (Newbound and Newbound 1995:7). First produced in white, milk glass was eventually manufactured in a variety of colors, including blue, brown, and green.

Metal Analysis

Metal artifacts are subdivided by the type of metal and include brass, lead, and iron. Iron is, by far, the most common kind of metal found on archaeological sites. Although iron is encountered in a variety of forms, including bolts, cans, and pop tops, nails generally provide the most viable chronological information. Common nails have been shown to be a valuable tool for dating archaeological sites (Nelson 1968; Noël Hume 1969).

Nails can be divided into three basic categories: hand forged, machine cut, and wire. The earliest nails were completely hand wrought (Types 1 and 2). Alone, they are not reliable dating tools, as their use began circa 1720 and continued into the early nineteenth century, when they continued to be selected for their clinching abilities and esthetics (Nelson 1968; Edwards and Wells 1993).

Machine-cut nails (Types 3-10) are good chronological indicators, as certain characteristics (i.e., direction of grain, burrs, pinching of the neck) allow those types of nails to be more accurately dated. Production of machine-cut nails began circa 1790 and continued until 1896. The early machine-cut nails were cut from rolled sheets of iron and their heads were hand forged (Type 3). Later machine-cut nails (Types 6-10) were cut from a sheet of rolled stock and had machine made heads. These later machine-cut nails can be more precisely dated by determining the direction of the metal grain, whether burrs are on the same side or diagonal sides, if the heads are irregular (early) or regular (modern), and if the nail was face or side pinched (Edwards and Wells 1993).

Wire nails were first produced as early as 1877 (Type 11), but were more expensive than, and inferior to machine-cut nails. This was because American machinery used to produce wire nails was not perfected until the 1860s and 1870s, and wire nails produced prior to that time were primarily in smaller sizes for use in items such as cigar boxes (Nelson 1968:10). However, by about 1890 it was possible to produce a cheaper and better quality wire nail (Type 12), which soon replaced machine-cut nails. Because of this, wire nails for architectural purposes were not widely produced until after about 1892. Although some builders continued to utilize cut nails well into the twentieth century for special applications, their use for residential construction was negligible after about 1896.

Curation Statement

Recovered artifacts were cataloged and analyzed in accordance with current professional standards. Following the completion of all analyses, reconstructed vessels were placed in archival, 2-mil poly bags if vessel size permitted. All remaining artifacts were

placed in archival, 2-mil poly bags labeled with the appropriate provenience information and boxed accordingly. All artifacts, records, photographs, and field notes will be curated with:

State of Louisiana
Department of Culture, Recreation, and Tourism
Division of Archaeology
P.O. Box 44247
Baton Rouge, Louisiana 70804-4247
(225) 342-8170

in the curation facility at:

Louisiana Division of Archaeology
Office of Cultural Development
1835 N. River Road
Baton Rouge, Louisiana 70802
(225) 342-4475

CHAPTER 6

FIELD SURVEY RESULTS

Methodology

Prior to the initiation of field investigations, a brief archaeological and historical background study was conducted to determine what types of cultural resources might be encountered during the survey. Archaeological site forms on file at the Division of Archaeology and historic standing structure forms on file at the Division of Historic Preservation (both of the Louisiana Department of Culture, Recreation and Tourism) were consulted to determine how many known archaeological sites fell within or immediately adjacent to the proposed project area. Previous cultural resource reports and other pertinent regional literature were reviewed.

The goals of these cultural resource investigations were to locate all cultural resources within the proposed project area and to assess their significance in terms of National Register eligibility through guidelines established by the National Park Service (1991). The significance of an historic property is expressed in terms of whether it meets one or more of several criteria:

> The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
>
> A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> B. that are associated with the lives of persons significant in our past; or

C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. that have yielded, or may be likely to yield, information important in prehistory or history. [National Park Service 1991:2]

A property is considered eligible for nomination to the National Register if it meets at least one of these four criteria by "being associated with an important historic context and retaining historic integrity of those features necessary to convey its significance" (National Park Service 1991:3). Additionally, properties normally have to be greater than 50 years old to be considered eligible for nomination to the National Register. Those archaeological sites that have been totally excavated, looted, or disturbed to a point where the remaining artifacts are out of their original context and will not provide meaningful information are not normally considered eligible. The archaeological significance of a site is most commonly assessed in relation to Criterion D, or its ability to yield "information important in prehistory or history" (National Park Service 1991:2).

Archaeology

The Phase I field survey consisted of a pedestrian examination of the project area. Due to the historical significance of the area and the high potential for archaeological deposits, the entire project area was treated as high-probability and was excavated at 30-m intervals. A three-member field crew excavated shovel tests at 30-m intervals on transects spaced 30 m apart. Each shovel test measured approximately 30 cm (11.7 in) in diameter, and was excavated to sterile soil, generally 30 to 50 cm below surface. In addition, all clearings, tree falls, and exposed ground surfaces were visually examined for cultural remains. All artifacts recovered during the investigation were washed, sorted, analyzed and catalogued at CEI's Baton Rouge laboratory.

Standing Structures

Prior to the field survey, CEI conducted a records search at the Division of Historic Preservation (DHP), Department of Culture, Recreation and Tourism. The DHP maintains

Louisiana Historic Resource Inventory (LHRI) and NRHP files for the State of Louisiana. Each recorded standing structure over fifty years of age is assigned a binomial number (e.g., 58-1000 [Parish Number + Structure Number]) by the DHP. The DHP maintains USGS 7.5-minute and 15-minute quadrangle maps and the DOTD city maps depicting the location of each recorded structure, as well as LHRI forms and corresponding reports. One structure had been previously recorded within the project's APE (see Chapter 4), but has not yet been assigned an official structure number. Examination of NRHP files indicated that while there are no Nation Register listed properties within the project APE, there is one NRHP property located nearby (Ashland-Belle Helene Plantation).

Archaeology

Between 10 February 2015 and 12 February 2015, CEI conducted a Phase I cultural resources survey of the Parks Geismar project area for BRAC in Ascension Parish, Louisiana, as part of an industrial site assessment. The BRAC study area measures approximately 187.57 ac (75.91 ha); however, 138.43 ac (56.02 ha) were previously surveyed by URS Corporation in 2013 (Handley et al. 2013). The remaining 49.14 ac (19.89 ha) were surveyed by the CEI field crew during the investigations detailed below.

The project area examined by CEI is located entirely within the property of South Wood Terminal, LLC. The 49.14 ac (19.89 ha) project area, with the exception a small area in the northwest corner of the property, was covered by a second-growth forest. A crew of three conducted visual and shovel test survey of the project area in transects spaced 30 m apart. A total of 279 shovel test were excavated at 30-m intervals along these transects. Shovel tests were excavated to a minimum depth of 50 cm. A typical shovel test in the project area consisted of 20 cm of a very dark grayish brown (10YR 3/2) silty clay loam overlying at least 30 cm of a brown (10YR 4/3) silty clay with oxidation.

Three archaeological sites were identified during the course of the survey. These sites are Parks 1 (16AN107), Parks 2 (16AN108), and Parks 3 (16AN109). An additional 195 shovel tests were excavated at 10-m intervals off of each positive shovel test within the

boundaries of the three newly recorded sites. All three sites represent historic occupations and vary in age from antebellum to modern. They are discussed below.

Parks 1 (16AN107)

The Parks 1 site (16AN107), located at the northwest corner of the project area, measures approximately 220 x 120 m. The site is situated in Section 21, Township 10 South, Range 2 East in the Southeastern District (east bank of the Mississippi River), Louisiana (Figure 6-1). Surface visibility varied across the site with portions covered in sparse vegetation and others with dense vegetation. A pipeline ROW runs along the southern edge and bisects the southeast corner of the site (Figure 6-2). The pipeline ROW measures approximately 15 m in width. The site also includes a previously recorded structure located in the northwest corner of the project area (see Chapter 4). The circa 1895 structure was first recorded by URS Corporation in 2013 and was later determined to not be eligible for listing on the National Resistor of Historic Places (Handley et al. 2013; Pam Breaux [SHPO] to Martin Handley 8 December 2014).

Two distinct historic occupations can be seen at the Parks 1 site based on the archival evidence and the archaeological evidence. The earlier occupation, which is associated with eight structures first seen on the 1847 Powell map of Ashland Plantation (see Figure 3-14), is on land that was likely formed from after 1830 (see Figure 3-13). The structures likely predate the 1843 acquisition of the Segond property by Duncan Kenner (Goodwin et al. 1985:107). All but one of the structures depicted in Powell's map are gone by 1851 (Humphreys and Abbot 1858) (see Figure 3-15). None were present by circa 1867 (Louisiana Board of Public Works 1867) (see Figure 3-17). This evidence suggests an occupation between circa 1835 and circa 1860 and agrees with the archaeological evidence, which is discussed bellow. This occupation represents around eighty percent of the area of the site. The second site occupation is associated with the extant structure (recorded as SS-SA 1.1-01 by Handley et al. 2013:35) and is confined to the northwest portion of the site immediately around the structure. The extant structure is first depicted in its present location in 1935 (see Figure 3-21) (MRC 1937). It is likely that the circa 1895 structure is one of two

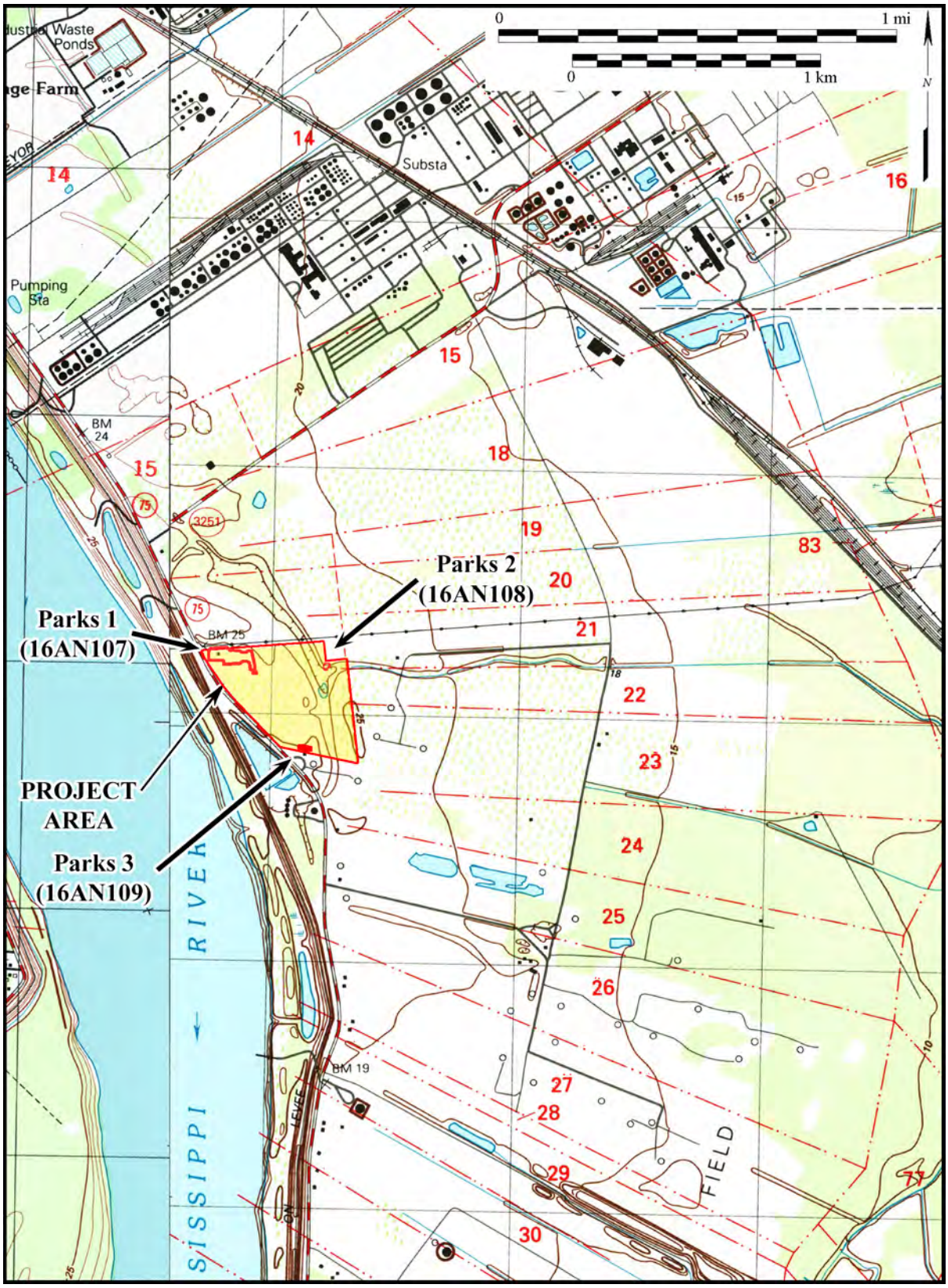

Figure 6-1. The CEI Parks Geismar cultural resources survey project area with the locations of the three sites found during the survey (USGS 1998, 1999).

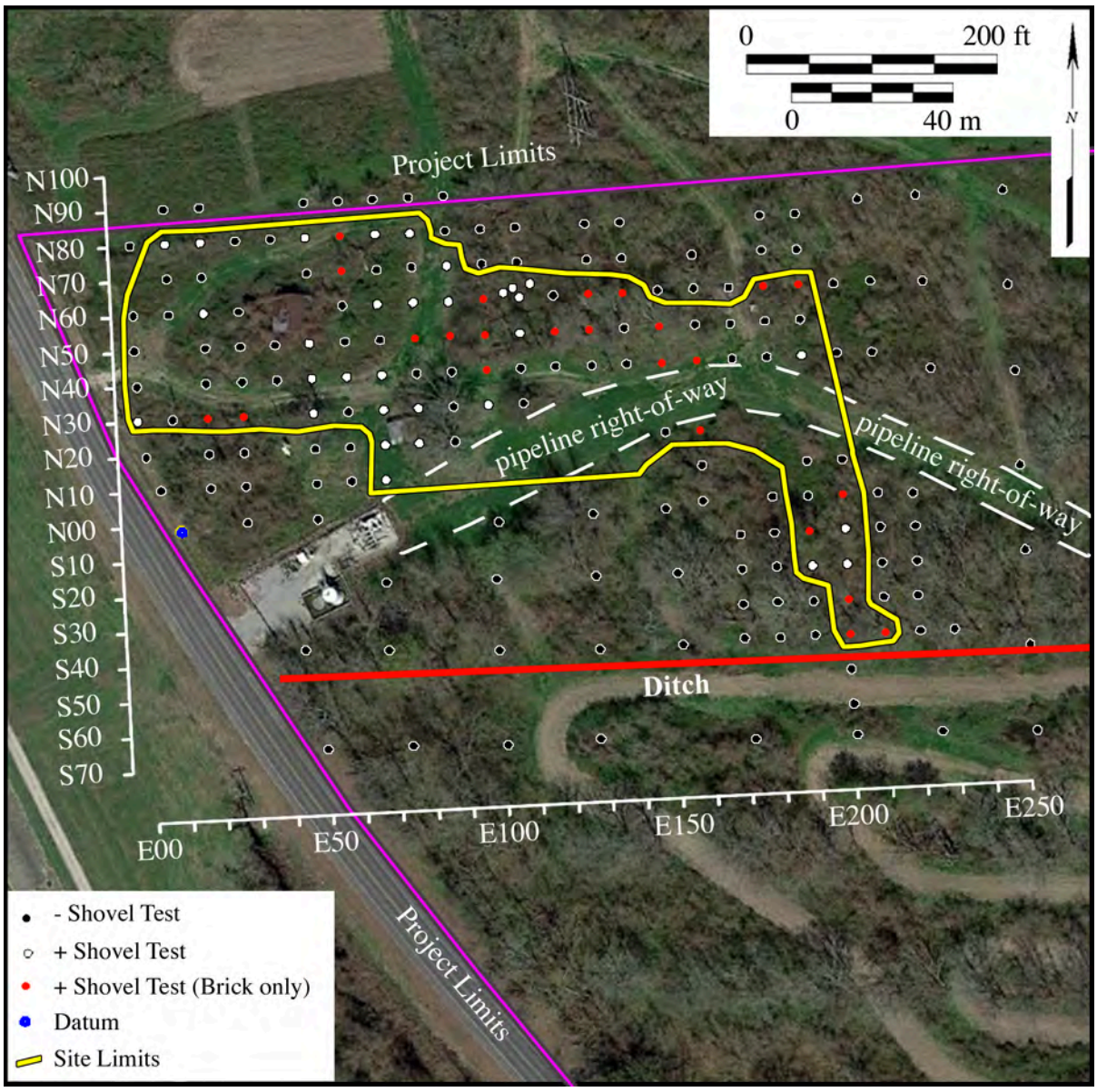

Figure 6-2. Sketch map of the work conducted by CEI at the Parks 1 site (16AN107).

structures first depicted just to the west of the present project area in the 1921 (see Figure 3-20; Handley et al. 2013; MRC 1921). The structure was likely moved to its present location to in circa 1930 due to levee setbacks.

One hundred sixty-five shovel tests were excavated in a 10-m grid across the site to determine its horizontal and vertical limits. Shovel testing continued until two negative test were encountered or until shovel testing encountered the limits of the project area or an obstacle (e.g., pipeline ROW). The typical shovel test from 16AN107 consisted of 20 cm of a very dark grayish brown (10YR 3/2) silty clay loam overlying at least 30 cm of a brown (10YR 4/3) silty clay (Figure 6-3). A total of 131 artifacts were recovered from surface collecting and positive shovel tests (*n=30*) (Table 6-1). An additional 24 shovel tests were positive for only brick; however, the brick was noted in the field and not collected. The artifact assemblage consists of historic ceramics, glass, faunal and floral material, petroleum byproducts, metal, brick, mortar, and shell (Figure 6-4).

The artifact assemblage can be grouped into the two occupational periods discussed above. The majority of the artifacts collected fall into the earlier occupation of the site. Forty-two historic ceramics were collected, which includes one piece of decorated porcelain dating from 1812 to present (Miller 1980:17), four pieces of creamware dating from 1762–1820 (Figure 6-4a) (South 1972), thirty-three pieces of pearlware dating from 1780–1830 (Lofstrom 1976:3-4), and four pieces of early whiteware dating from 1828–1860 (Moir 1987:102; Price 1982:14). In addition a fragment of a hand-forged nail (Type 1-2) dating from 1731–1820 (Edwards and Wells 1993; Nelson 1968) was recovered. One of the transfer-printed pearlware pieces could be identified as to pattern—a shell border irregular or grotto-shaped center that was manufactured by Enoch Wood & Sons from 1818 to 1845 (Figure 6-4b) (Snyder 1995:139; Kowalsky and Kowalsky 1999:381).

In Shovel Test N60E110, an intact brick feature was encountered at a depth of 30 cmbs and was designated Feature 1 (Figure 6-5). The area around the shovel test was extensively probed to find the horizontal limits of the feature. Probing indicated that the brick feature measures approximately 7.5-x-4.5-m and consists of one or two courses of

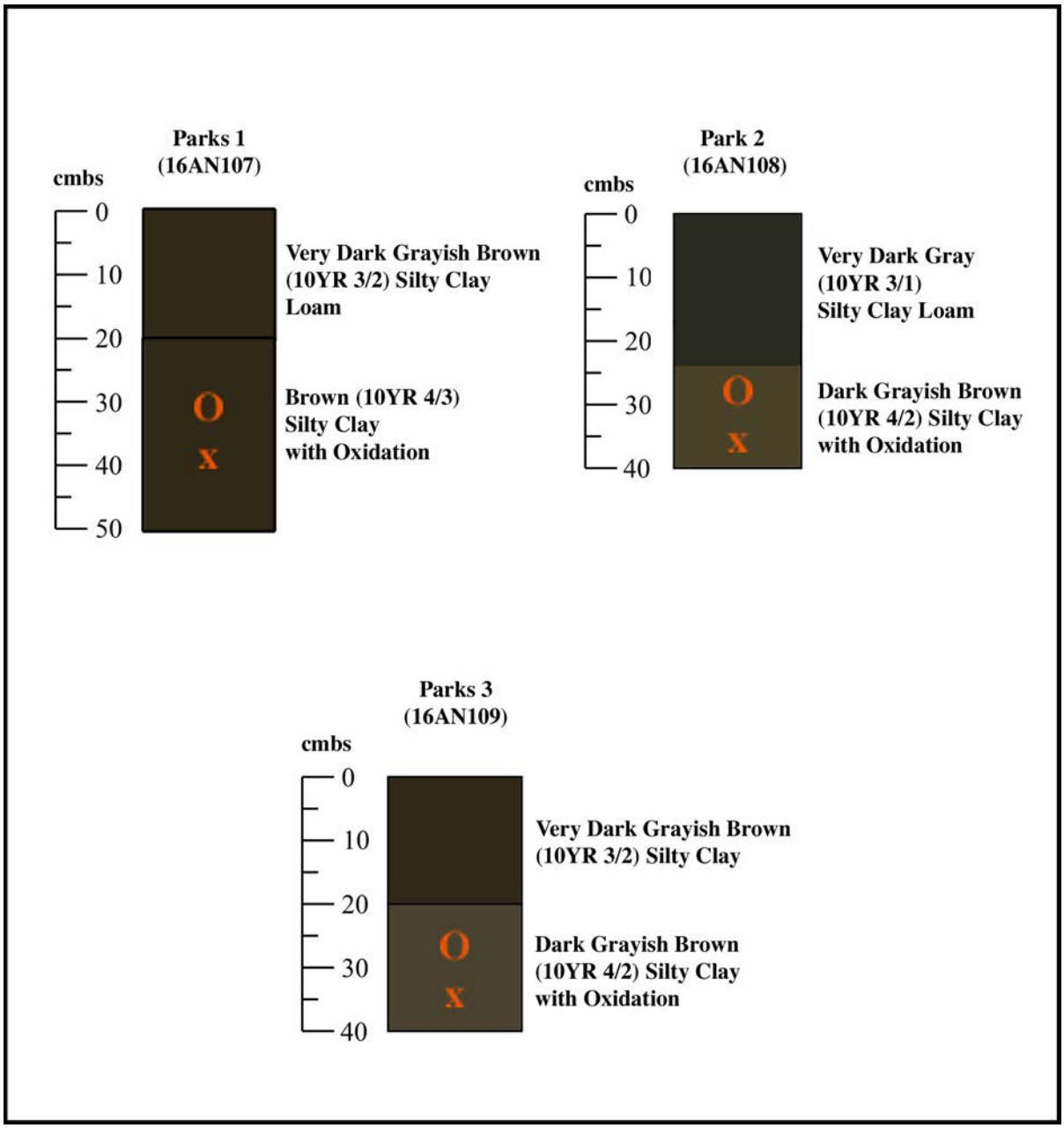

Figure 6-3. Shovel test profiles of the typical stratigraphy encountered at the three sites identified during the Parks Geismar cultural resources survey.

Figure 6-4. Refined earthenwares recovered from the Parks 1 site (16AN107): a) creamware base; b) transfer printed pearlware; c-e) annular decorated pearlware; f) blue edged pearlware, g-h) green edged pearlware; i) embossed, blue edged pearlware; j) hand painted pearlware; k) transfer printed pearlware; l) blue edged early whiteware; m-n) transfer printed early whiteware.

Figure 6-5. Intact and partially articulated portion of Feature 1 as encountered in Shovel Test N60E110. View is to the north.

brick. This suggests that Feature 1 likely represents paving; such as that used in interior flooring, under a gallery, or a "patio." Three additional shovel tests were excavated to identify the potential feature limits and to expose better-preserved areas (see Figure 6-2). Shove Test N65E115 revealed an articulated portion of Feature 1 at a depth of 24 cmbs (Figure 6-6), and Shovel Test N62.5E108.5 revealed an articulated portion of Feature 1 at a depth of 14 cmbs. Shovel Test N61.5E105.5 was excavated in a location that probing indicated was the edge of the feature. In all, twenty sherds of pearlware were recovered from Shovel Test N61.5E105.5, including eleven sherds of annular ware (Figure 6-4c-e); three sherds of edged, var. *symmetrical* (Figure 6-4f-h); one piece of edged, var. *embossed* (Figure 6-4i); one sherd of hand painted (Figure 6-4j); and one sherd of transfer print (Figure 6-4k). Three sherds of decorated early whiteware were also recovered including one sherd of edged, var. *symmetrical* (Figure 6-4l) and two sherds of transfer print (Figure 6-4m-n). In addition to the ceramics, eight pieces (or 49.73 g) of non-human bone were recovered as were 376 g of ferrous metal.

The second occupation of the site is associated with the extant structure and was confined mostly to the area around it. The recovered glass (*n=10*) was mostly of unidentified manufacture; however, one shard was identified as machine-made with an Owens scar. Machine-made glass dates from 1903 to the present (Miller and Sullivan 1984:88, 89). The glass consists of brown, clear blue, modern green, and clear shards. The absence of any clear purple, olive, or olive amber glass found at the site suggests a later date of occupation. In addition to the glass, two pieces of petroleum byproduct were also found.

The data from the artifact analysis suggests that two historic occupations occurred at the Parks 1 site. These two occupations covered two different periods with the first ranging from early-to-mid-nineteenth century and the second from the early-twentieth century to the present. The artifact assemblage from the earlier occupation consists mostly of pearlware with some creamware and early whiteware. This suggests a date of occupation of ranging from the 1820s to the 1850s. A few of the artifacts, like the creamware, could have been brought to the site at the time of its occupation, and hand-made nails were used into the 1830s. The archival evidence agrees well with the dates suggested by the artifact analysis,

Figure 6-6. Intact and articulated portion of Feature 1 as encountered in Shovel Test N65E115. View is to the north.

but suggests a shorter duration of occupation. The archival evidence shows that the land around the site was not likely formed until after 1830 (see Figure 3-13) and that it was mostly abandoned between 1847 and 1851 (compare Figures 3-14 and 3-15). The glass assemblage would indicate that the second occupation of the site covered the twentieth century. This would agree with the archival evidence, which indicates that the circa 1895 structure was not at its present location until circa 1930 (compare Figures 3-20 and 3-21).

Parks 2 (16AN108)

The Parks 2 site (16AN108), located at the northeast corner of the project area, measures approximately 20 x 20 m. The site is situated in Section 21, Township 10 South, Range 2 East, Southeastern District (east bank of the Mississippi River), Louisiana (see Figure 6-1). Surface visibility at Parks 2 was good with the ground covered by sparse vegetation. The site consists of a small scatter of brick rubble (Figure 6-7). Fifteen shovel tests were excavated, three of which were positive for brick rubble. The artifact collection was limited to brick, with only a portion being collected from Shovel Test 1. The brick from the other two positive shovel tests was noted but not collected. The typical shovel test profile for the Parks 2 site consists of 24 cm of a very dark gray (10YR 3/1) silty clay loam overlying at least 16 cm of a dark grayish brown (10YR 4/2) silty clay with oxidation (see Figure 6-3).

Site 16AN108 is located just north of where the east-west running crevasse channel connects to the lagoon (see Figure 6-1). The site is also situated between two bridges: one is an extant bridge crossing the lagoon, the second is a collapsed bridge that once crossed the crevasse channel (Figure 6-8). It is possible that brick was brought in as fill for the road between the two bridges. Although the brick gives no definite date for the site, the circa 1847 Powell map (see Figure 3-14) indicates the presence of a road in the area around the site and of two crossings at the same area as the current bridges. It should be noted that Powell map also depicts that a portion of the Ashland plantation racetrack was located within the present project area; however, no evidence of the racetrack was found during the survey (see Figure 3-14).

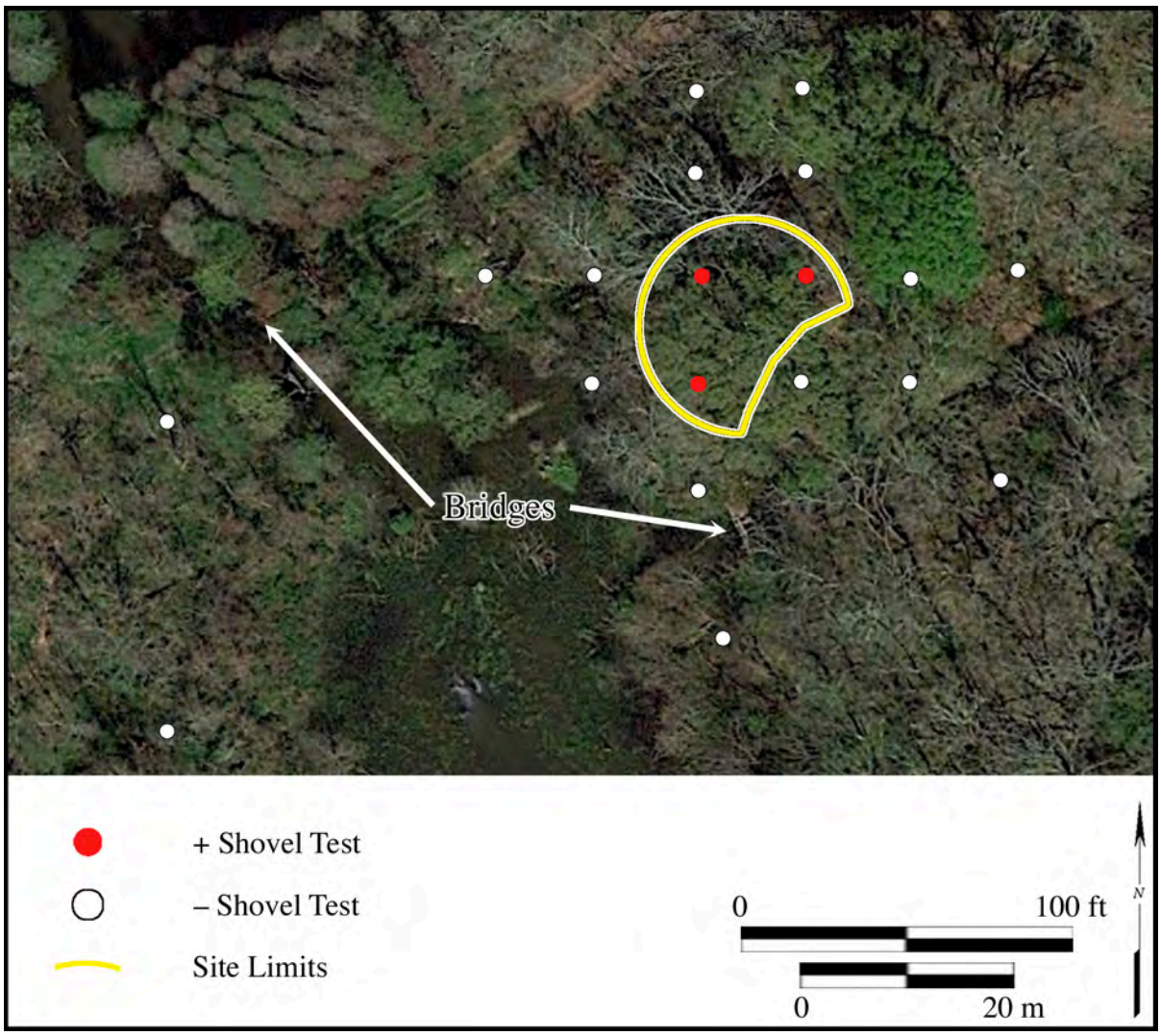

Figure 6-7. Sketch map of the work conducted by CEI at the Parks 2 site (16AN108).

Figure 6-8. Photograph overlooking the Parks 2 site (16AN108). Note the collapsed bridge that once spanned the crevasse channel. View is to the north.

Parks 3 (16AN109)

The Parks 3 site (16AN109), located at the southern edge of the project area, measures approximately 50 x 10 m. The site is situated in Section 23, Township 10 South, Range 2 East, Southeastern District (east bank of the Mississippi River), Louisiana (see Figure 6-1). Surface visibility at Parks 3 was poor, the ground covered by dense vegetation. A total of 15 shovel tests were excavated at the site. The typical shovel test profile consisted of 20 cm of a very dark grayish brown (10YR 3/2) silty clay overlying at least 20 cm of a dark grayish brown (10YR 4/2) silty clay with oxidation (see Figure 6-3). The site consists of a small scattering of brick rubble (Figure 6-9). Three shovel tests were positive for brick rubble. One of these shovel tests (Shovel Test 1) yielded one fragment of a marked firebrick. The firebrick fragment was manufactured by the St. Louis Vitrified & Fire Brick Co. between 1901 and 1923 (Brick 1904:248; Polk-Gould Directory Co. 1923:537).

The Parks 3 site is situated along the edge of a fence line that serves as an historic property boundary. The boundary dates to 1911 when Belle Helene Plantation was subdivided into smaller lots and sold off (see Figure 3-19). The site was likely formed by dumping activity practiced by the residents of several structures that lay to the south of the project area during the early twentieth century. That complex of building was likely constructed between 1921 and 1935 (compare Figures 3-20 and 3-21) (MRC 1921, 1937).

Standing Structure Survey

There are no current plans to develop the property, and the APE for indirect effects has been limited to the project area footprint. As discussed in Chapter 4, one standing structure was recorded by URS within the project APE in 2013 (Handley et al. 2013). It has not yet been assigned a state standing structure number and possesses only URS's temporary designation of SS-SA 1.1-01. The circa 1895 structure (Figure 6-10) was described in 2013 as "built on a rectangular plan . . . and is a modest example of a Vernacular Cottage built with little-to-no stylistic pretension" (Handley et al. 2013:35). It was assessed at the time as being in poor condition.

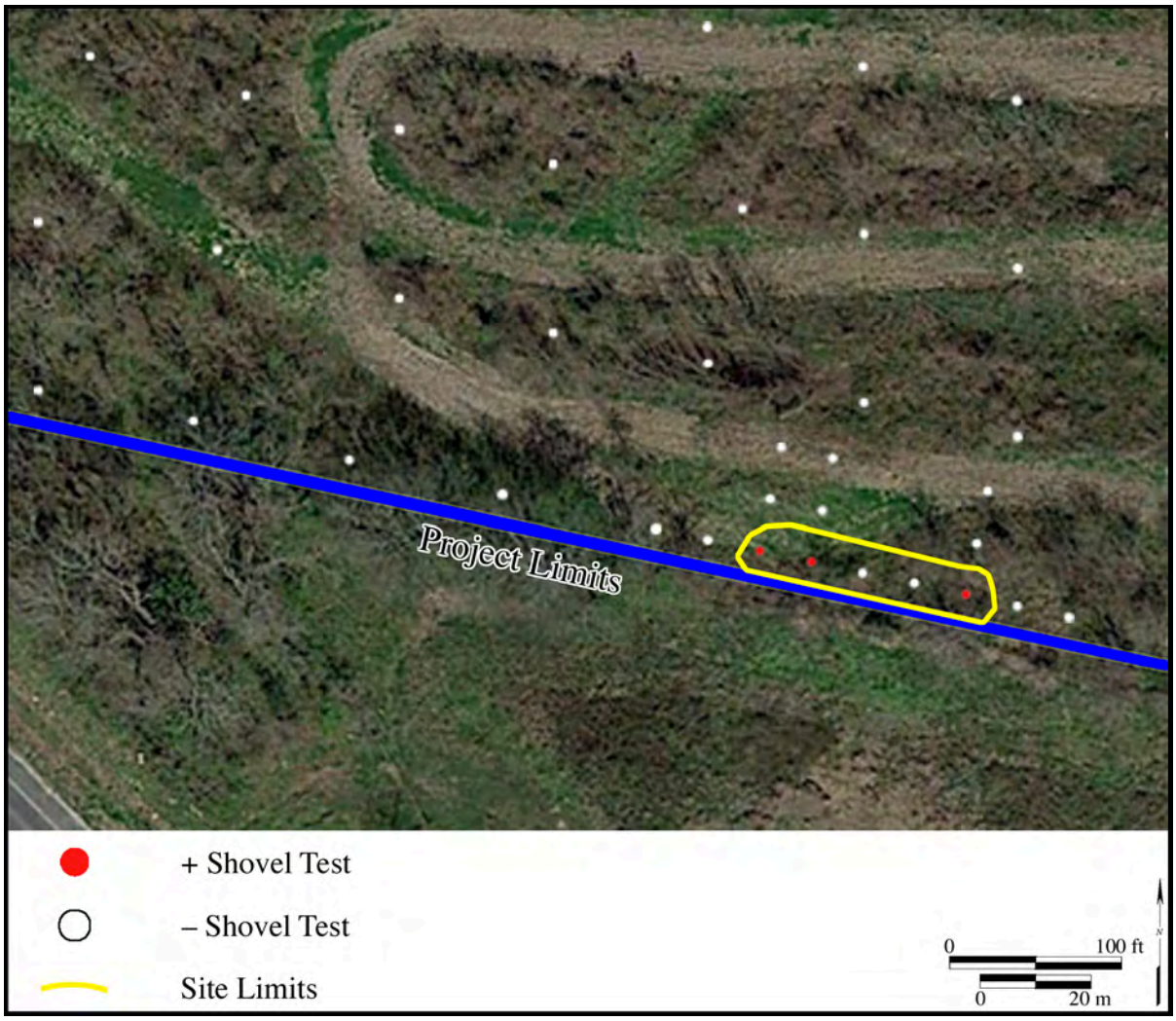

Figure 6-9. Sketch map of the work conducted by CEI at the Parks 3 site (16AN109).

Figure 6-10. Circa 1895 standing structure (URS SS-SA 1.1-01) located within the northwest corner of the project area. View is to the east.

The heavily overgrown structure has a steeply pitched roof with the gabled ends located in the front and back of the structure. A portion of the sheet metal roofing is missing, revealing a wood-shingle roof underneath. Upon close examination, the building is not resting on brick piers as previously reported (Handley et al. 2013); instead it rests upon concrete pylon piers. These types of piers have been commonly used since the 1920s when structures are moved from their original location. This, along with the available archival data, indicates that the structure is not in its original location. Indeed, archival evidence suggests that the circa 1895 building was likely moved to its present location in circa 1930. The structure was determined ineligible for listing on the NRHP as of CEI's February 2015 survey (Pam Breaux [SHPO] to Martin Handley 8 December 2014). No other structures currently stand within the Parks Geismar APE. As was noted previously, the Ashland-Belle Helene main house, which is listed on the NRHP, is located 725 m or 2,378 ft upriver from the APE.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

Between 10 and 12 February 2015, CEI conducted a Phase I cultural resources and standing structure survey of the Parks Geismar project area for the Baton Rouge Area Chamber (BRAC) in Ascension Parish, Louisiana, as part of an industrial site assessment. The original scope of work called for a survey area of 187.57 ac (75.91 ha). However, 138.43 ac (56.02 ha) of that area had been previously surveyed by URS Corporation in 2013 (Handley et al. 2013). That portion of the property was not re-examined by CEI. Hence, CEI's examination was limited to the 49.14 ac (19.89 ha) of the BRAC study area that was not previously surveyed.

Three previously recorded archaeological sites are located within that portion of the BRAC study area that was surveyed in 2013 (Handley et al. 2013). Avalon SA-3-01 (16AN93), Avalon SA-3-02 (16AN94) and Avalon SA-3-03 (16AN95) are all historic sites. All three sites have been determined to be ineligible for inclusion on the National Register of Historic Places (NRHP) (Pam Breaux [SHPO] to Martin Handley 8 December 2014). It should be noted that Avalon SA-3-03 (16AN95) forms a portion of the Texas Quarters of Ashland Plantation. Only a portion of the quarters extends into the BRAC study area, the bulk of the quarters lying outside of it. The 2013 investigations conducted by URS Corporation were limited to only that part of the site within their project area. The status of that portion of the Texas Quarters located outside of the BRAC study area is considered to be undetermined. URS Corporation (Handley et al. 2013) also recorded one standing structure during the course of their 2013 investigations. Provided the temporary designation of SS-SA 1.1-01 by URS, that dwelling stands within the limits of CEI's project area. Like the

archaeological sites, the structure has already been determined not eligible for inclusion on the NRHP (Pam Breaux [SHPO] to Martin Handley 8 December 2014).

CEI's survey of the previously unexamined 49.14 ac (19.89 ha) balance of the BRAC study area located three additional archaeological sites: Parks 1 (16AN107), Parks 2 (16AN108) and Parks 3 (16AN109). All date to the historic period.

The Parks 1 site (16AN107) reflects two distinct historic-period occupations, one dating from the 1830s to the 1860s and the other from the 1930s through the 1960s. Archival evidence indicates that the land on which the site is located was not likely formed until after 1830 (see Figure 3-13) and that the area was mostly abandoned between 1847 and 1851 (compare Figures 3-14 and 3-15). By the late 1860s, the area had reverted to pastures and farmland (Louisiana Board of Public Works 1867). Based on the available evidence, this site component likely dates circa 1835–1860. The second site occupation is associated with an extant circa 1895 structure (recorded as SS-SA 1.1-01 by Handley et al. 2013:35) and is confined to the northwest portion of the site immediately around that structure. The extant building is first depicted at its present location in 1935 (see Figure 3-21) (MRC 1937). It was likely moved there in circa 1930 due to levee setbacks following the 1927 flood. The recovered artifacts reflect these two periods of occupation very well (see Chapter 6). The site includes one known *in situ* feature, an area of brick paving (Feature 1) that is likely associated with the site's earlier component. With at least one intact feature and numerous antebellum artifacts present, CEI recommends that Phase II testing for National Register eligibility be conducted at the Parks 1 site (16AN107) if it can not be avoided by future construction.

The Parks 2 site (16AN108) consists of a small scatter of brick rubble (see Figure 6-7) situated between two small bridges. The brick rubble was likely brought in as fill for the road connecting the two bridges. CEI's examination of the site did not locate any *in situ* cultural remains. Likely representing fill, site 16AN108 possesses little or no research potential. Therefore, site 16AN108 is considered to be not significant in terms of eligibility for inclusion on the NRHP. Based on the results of the field investigations, CEI recommends that no further work be conducted at the Parks 2 site (16AN108).

The Parks 3 site (16AN109) consists of a small scatter of brick rubble (see Figure 6-9) that likely represents a trash disposal area used by occupants of the neighboring property during the twentieth century. With little or no research potential, site 16AN109 is considered to be not significant in terms of eligibility for inclusion on the NRHP. Based on the results of the field investigations, CEI recommends that no further work be conducted at the Parks 3 site (16AN109).

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