



Railroad construction in Lake County , TN
Joshua Wayland to: Jennifer.Barnett

02/10/2015 05:04 PM

Hi Jennifer,

Thank you for taking my call today. As I mentioned on the phone, my office received comments from the Tennessee Historical Commission in August, 2014 requesting additional information about the proposed rail construction project at Cates Landing in Lake County, Tennessee. Specifically, the comments request a copy of a map of the proposed project area and a clear project narrative. I have attached for your reference a copy of a Description of Proposed Action and Alternatives, which my office prepared as part of its ongoing environmental review of the project. This document includes maps of the applicant's proposed alignment and the identified alternatives. I have also attached a cultural resources survey report prepared on behalf of my office by our third party contractor. The original request for comments and the response are also attached. Thank you so much for taking the time to review these documents; please feel free to call me at the number below with any questions or if there is any additional information you need for your review.



Request for Project Related Comments.pdf Tennessee Historical Commission Response.pdf



Cates Landing DOPPA.pdf Cates Landing Cultural Resources Survey Report.pdf

Best regards,

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**CULTURAL RESOURCES SURVEY OF THE RAILROAD ACCESS RIGHT OF WAY
FOR THE CATES LANDING INDUSTRIAL PARK, LAKE COUNTY, TENNESSEE**

by

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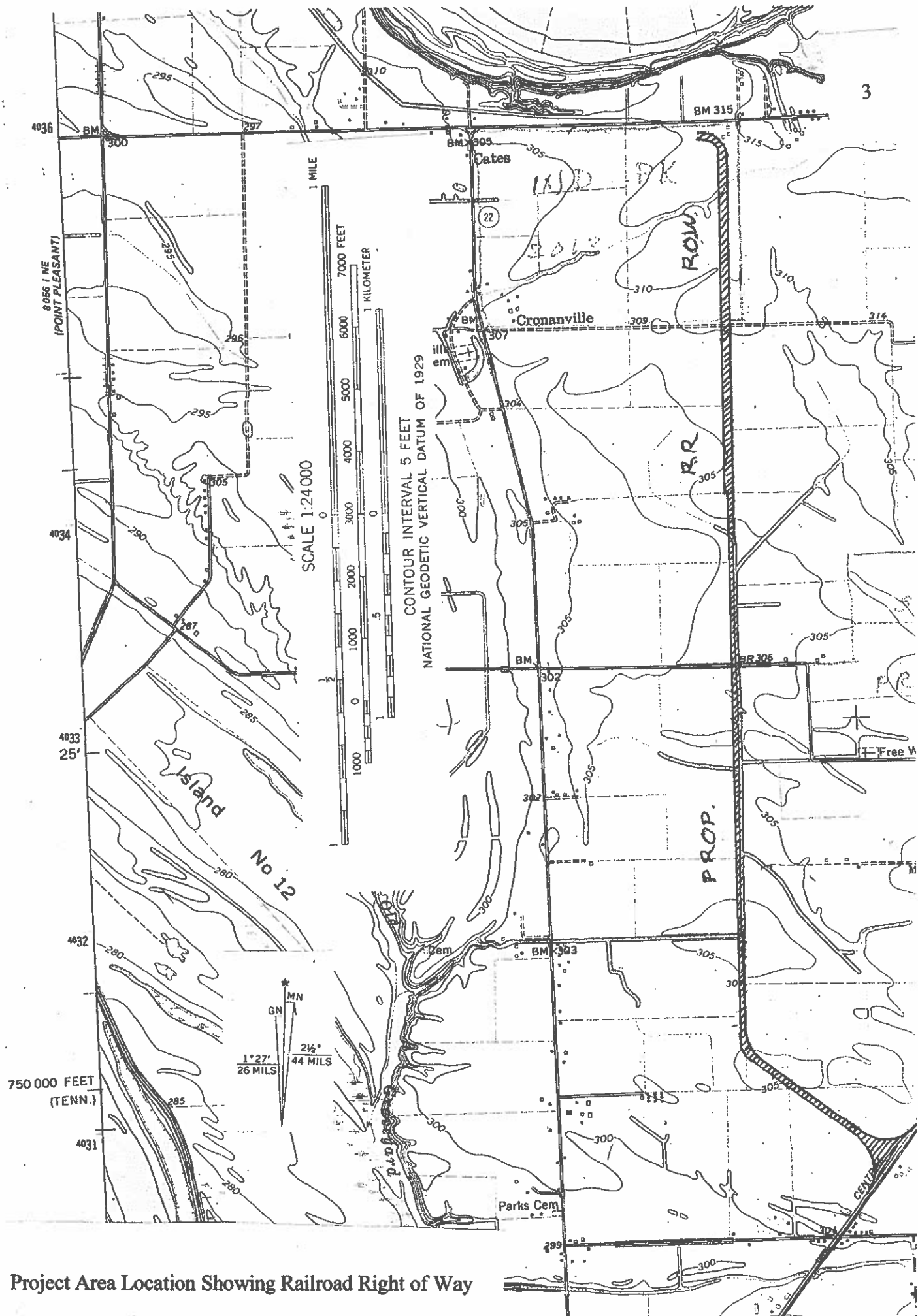
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MANAGEMENT SUMMARY

This survey was done as part of the overall preliminary investigations of the development area of the Port of Cates Landing, the associated industrial park, and the railroad access corridor. The port is on the Mississippi River just north of the point where Tennessee Highway 22 turns eastward after running north from Tiptonville, TN. The industrial park is on a tract of 345 acres southwest of this turn and the railroad access route runs south from its eastern edge to the Illinois Central/ Canadian National line from New Orleans to Chicago, on a right of way approximately 60 to 80 feet wide over most of its length, expanding to 130 feet near the northern end and a fan shaped expansion at the southern to provide for a junction with the main line.

Field survey was conducted by Gerald and Nancy Smith on August 2-4, 2014 under generally good to excellent field conditions. No archaeological sites were found and no additional material was recovered from site 40LK121.



ENVIRONMENTAL SETTING

The project area is all within the Lower Mississippi Alluvial Valley, and its various elements have been adjacent to an active channel of the Mississippi River for more than a century. Climate in the northern sector is moderate, with a growing season of about 221 days under present conditions (Brown 1969:2). Average temperature range from maxima of 92 in July to 49 in January and minima of 70 in July to 28 in January. Rainfall is fairly evenly distributed through the year, with only January more than 5 inches. Winter and spring rainfall tends to come in long periods of drizzle while summer and fall rainfall is usually from thunderstorms. The seasonal rainfall pattern in Shelby County approximates that of the northern area, with a slightly longer growing season and somewhat warmer average temperatures.

Geologically the entire area is quite young, being composed of the post-Pleistocene Mississippi River meander belt ridge. It is a mosaic of old meander loop scars and natural levees. The original network of such scars was altered by the New Madrid earthquake of 1811-1812, when part of the northern area was uplifted and part lowered as much as 25 feet in some areas (Shelford 1963:91). Reelfoot Lake was formed in a series of meander scars after the earthquake. Most recent active channels have affected only the western margin of Lake County and the northern margin of western Fulton County. The central part of Lake County is generally relatively high and well drained except for some areas of incompletely filled meander scars, while the eastern edge is generally low and swampy. Most of the Fulton County study area is in a relict Mississippi River meander scar of uncertain age within the last 1500 years or so. The Shelby County study area is made up of a mosaic of old meander scars and natural levee deposits, also formed for the most part within the past 1000 years or less with some formed within the past century.

Nearly all of the original forest cover of the area has been cleared for farming and the rest greatly affected by logging activities. The Reelfoot area has been the focus of extensive ecological study, including reconstruction of the probable preclearing forest habitat by Victor Shelford (1963). His work was done before detailed soil mapping of the county and is based mainly on drainage, siltation, and plant community successions. Most of his rate of change estimates are based on Fisk's 1944 study of channel stages and are thus questionable in many cases.

Shelford (1963:94-96) discusses a series of short-term sandbar and low bankline willow and cottonwood forest complexes which offer little in the way of game or resources. His Mature Cottonwood-Willow Forest is less frequently flooded than the earlier, lower stages and includes a wide range of vines, with swamp rabbit, opossum, and raccoon common; gray squirrel present; and deer, wapiti (elk), and occasional bison reported by early travellers. The Old Cottonwood-Willow Forest appears to develop by the time soil deposition reaches 28 to 30 feet above mean low water and is characterized by invasion of the cottonwood-willow forest by boxelder, red maple, hackberry, elm, and sweetgum. Shelford's Sugarberry-Elm-Sweetgum

Forest, ("sugarberry" being used for "hackberry") includes a wide variety of other species of trees along with vines and shrubs. The game animals present in earlier stages of forest development were also present here as well as bear, mountain lion, bobcat, and wolf. The Floodplain Oak-Hickory Forest appears to require 100 to 200 years to develop (Shelford 1963:102), with cherrybark oak and pin oak at about 50%, shellbark and bitternut hickory at 15 to 20%, and a wide range of species from previous seres making up the rest of the forest composition. The Tulip-Oak Forest is considered probable for all areas 40 to 45 feet above low water and not disturbed by the river for several hundred years (Shelford 1963:103). It includes tulip poplar, basswood, chinkapin oak, shumard oak, beech, elm, and hackberry as major species. Shelford has estimated that this stage begins about 450 years after the initial sandbar willow stage and requires at least another 150 years for full development.

Shelford's forest reconstruction map for the Reelfoot area (1963:Fig. 4-2) shows the high ground at Tiptonville and northward to the Mississippi as probable early Tulip-Oak Forest, the old channels north and south of town as containing Hackberry-Gum and Cypress-Ash forest, and the recent flats west of town as various Cottonwood-Willow forests. Given the more complete river movement history now available, a westward extension of these areas would be the most likely pre-1850 condition. Soil correlations would approximate Tulip-Oak Forest with the Reelfoot-Tiptonville-Adler soil association and the Hackberry-Gum and Cypress-Ash with various elements of the Iberia-Sharkey-Bowdre association.

Barry Lewis (1974) developed a somewhat different biotic community model based on floodplain geomorphology, using data from southeastern Missouri directly across the Mississippi from the Reelfoot area. Lewis' scheme does not attempt to deal with temporal change. The geomorphic basis of his work is on a cross-section from the stream outward; the sequence thus consists of river, river front, natural levee crest, backslope, and backswamp sectors. The backslope sector has upper and lower subdivisions which correspond to different soils and biotic communities. Lewis made extensive use of Government Land Office (G.L.O.) surveys from the 1820's and 1830's, vital resources which do not exist for areas opened to settlement before this time, including western Tennessee and Kentucky.

The soil listed for the river front zone is simply "muck," with willow, cottonwood, and water-edge brush as vegetation. The natural levee crest is composed of fine sandy loam soils and supports a Cottonwood-Sycamore Forest with cane as a major understory species. It is considered an early stage in plant succession comparable to Shelford's Old Cottonwood-Willow Forest. This is the highest and driest land in the floodplain and has an abundant bird and mammal population including all major game species. The Sweetgum-Elm "Cane Ridge" Forest is mainly on high silt loam soils such as old natural levees and alluvial fans. Sweetgum and elm are the primary trees, with hackberry and ash as secondary trees and cane as the primary undergrowth. This community corresponds roughly to Shelford's Hackberry-Sweetgum Forest. It is considered the primary resource area for game, with deer and bear particularly common.

The Sweetgum-Elm-Cypress Seasonal Swamp is lower levee backslope. It differs in forest composition from the Sweetgum-Elm community by its inclusion of cypress and more maple, along with a lack of cane and general impoverishment of undergrowth and residential

mammal populations due to seasonal flooding. The Cypress Swamp community is usually flooded and on such soils as Sharkey clay. Cypress, willow, honey locust and red haw are the main forest species, with cypress at 50% or more. Undergrowth is rare and raccoon, muskrat, mink, otter, beaver, and squirrels are the main mammalian species. The Water Millet-Lily Marsh community exists in the shallow lake and slough margins too deep for cypress growth. It is of particular importance for waterfowl and aquatic animals.

The correspondence of these two systems of biotic habitat definitions with each other is quite close, each supplementing the other at various points. The soils and geomorphic data considerations of Lewis' system are of particular relevance for Shelford's treatment of the Reelfoot area when Saucier's (1974) concept of meander belt ridges and his location notation (Fig. 1) that the Mississippi River meander belt in this sector has remained essentially stable. Thus the high central portion of Lake County can be considered as a meander belt ridge incorporating many basic features of a natural levee and upper backslope setting with a few prominent meander loop scars, and the lower eastern margin as essentially a collective backswamp. Subsidence of Reelfoot Lake itself as a result of the New Madrid earthquake is problematical in its degree of change from prior conditions; much of the eastern portion may well have already been swampy while the western sector with its maze of relatively well defined meander loops may even have harbored open-water oxbow segments prior to the earthquake. The topographic/soils frame of reference of the two systems, virtually combinable into one, also make them applicable throughout the lower Mississippi River valley with due allowance for local variation, a vital feature in the modern world of almost completely cleared and extensively drained landscapes.

The Cates Landing study area thus should have contained primarily Tulip-Oak forest, perhaps with cane undergrowth, backswamps, meander loop areas in various stages of estivation, and a nearby open river with its various bankline and sandbar habitats. Open water may well have existed at various times in part of the Reelfoot Lake area or other meander scars. A rich variety of resources would have been available, especially when open lake areas were present.

REGIONAL CULTURAL BACKGROUND

Prehistory

The Mississippi River drainage of western Tennessee and Kentucky has been occupied by humans for at least the past 10,000 to 12,000 years. It is included within the coverage of such general regional treatments as provided by Morse and Morse 1983, Phillips 1970, Phillips, Ford, and Griffin 1951, and Smith 1979, 1989 and 1990. The summary provided here is intended as a general framework for the more detailed study area discussions. The cultural remains of the earliest inhabitants consist primarily of large fluted lance points and an associated complex of scrapers, flake knives and unfluted lance points otherwise similar to the fluted forms. Most of the known specimens are from areas east of the loess sheet, but a few are also known from the vicinity of the Mississippi River bluffs. Specimens from this period are rare and very few of the site locations are known for this earliest, or Paleoindian, period. Therefore any site producing such specimens must be considered of great importance until or unless careful investigation proves otherwise. The population was very small and is generally considered to have lived largely by hunting large terminal Pleistocene mammals and generalized gathering of wild plant foods.

By about 8000 B.C. the archaeological record indicates the increasing importance of plant foods in the diet, by way of grinding implements probably used largely for processing seeds and nuts. With the extinction of large, slow game animals previously available and a shift to smaller, swifter animals such as deer, new styles of projectile points with distinct stems or notches and barbs came into use along with the spear thrower. The population during this period, the Early Archaic, appears to have increased and camps dating to this period are encountered throughout western Tennessee, although they are uncommon compared with remains from later periods.

In adjacent areas such as Illinois and Missouri ground stone items such as axes and spear-thrower weights and a series of distinctive projectile point types appear by about 5000 B.C. and serve as markers for the Middle Archaic period in those areas. However in western Tennessee there are no firm data available on the dating of the appearance of ground stone items and the projectile point styles of the 5000 to 3000 B.C. time span have yet to be distinguished from earlier or later forms in the Mississippi drainage. Eva points, believed to date to this time span in the western valley of the Tennessee River are extremely rare in the Mississippi drainage. Other types, or portions of the range of variation within current types, have been proposed (Smith 1991) as possible Middle Archaic markers but the stratigraphic information necessary to test these proposals has not yet been recovered. As a result of these limitations there has been no designation of "Middle Archaic" remains as distinguished from "Early Archaic" or "Late Archaic" remains in the area.

By about 3500 B.C. ecological specialization had some to play a major role in subsistence, and the population appears to have begun increasing significantly once again. Bands of people living by hunting and gathering mainly seasonally concentrated plant foods appear to have settled into relatively stable seasonal routes of movement between resource areas. Camps emphasizing the kinds of tools and waste raw material left behind. Hunting camps appear in almost any

ecological context, but gathering camps are sharply restricted to the transition zone between the upland and bottomland/swamp forest zones and within this usually on ridge tips or isolated rises of Grenada or Calloway soil. Many routes of movement appear to have been narrow East-West strips of territory between the Tennessee River and the eastern half of the loess sheet. This way of life continued for perhaps 2,000 years, during which the same people appear to have been using both the Mississippi and the Tennessee drainages can conveniently be referred to as the early Late Archaic. It was during the late Archaic when the great shell heaps along the Tennessee River saw most of their activity, but the contemporary cultures of the Mississippi drainage were quite different in many ways.

Between about 1500 and 1000 B.C. a new way of life, and perhaps new people, appeared from the south in western Tennessee. This new culture in the area represented the expanding frontier of the Poverty Point culture which was centered far to the south in northeastern Louisiana and west-central Mississippi. The earliest Tennessee sites are in the southwestern corner of the state, but by about 500 B.C. Poverty Point sites appear throughout the Mississippi drainage, to the exclusion of Tennessee River-based terminal Late Archaic/Gulf Formational occupations. Poverty Point sites are usually camps, but the different groups of Poverty Point people appear to have remained in localized areas. Projectile point styles are distinct from those of neighboring cultures. A wide variety of spherical, biconical, and ellipsoidal baked clay objects used for cooking are characteristic of Poverty Point base camps. The form and decorative styles of these objects vary greatly from area to area in western Tennessee, and some may have continued in use into the Early Woodland period.

The Early Woodland Period in the Mississippi River drainage lasted from about 400 B.C. into the beginning of the Christian era. Stability of the social groupings established during the Poverty Point-related occupation of the region is indicated by congruence of the local areas during at least the first half of the period. The appearance of Tchula-like pottery marks the beginning of the period, with the ceramic ideas clearly drawn from the lower Mississippi delta region rather than from contemporary ceramics in the Tennessee River valley. Increasing other influences are reflected in the appearance of Adena projectile point styles and sand-tempered cordmarked and fabric impressed pottery by the end of the period. Sites characteristic of the period are camps and small villages. Burial mounds should occur during this period, but none have yet been identified specifically as Early Woodland.

During the Middle Woodland period of about 100 to 400 A.D. western Tennessee seems to have been involved in the vast trade network shared by the Marksville culture of Louisiana and Mississippi, the Hopewell culture of the Ohio and upper Mississippi valleys, and related cultures in the Tombigbee drainage and along the coast of the Gulf of Mexico. The best known site of the period is at Pinson Mounds State Park (Mainfort 1986), but occupations are widespread throughout the region. Baldwin series sand tempered ceramics, primarily with cordmarked and plain surface finishes, are the most common marker for the period.

Late Woodland villages of the last half of the first millennium A.D. are quite common in the Mississippi delta region of westernmost Tennessee and Kentucky, but are quite rare throughout most of the uplands. The few known upland terminal Woodland sites are mainly on

the main stem and the North Fork of the Obion and for the most part look more like special-purpose camps for small groups rather than the large villages to be found in the Mississippi River delta country.

The Mississippian period of about 1000-1550 A.D. is the era of the appearance of large town and ceremonial centers in western Tennessee as well as in the rest of the south-central and southeastern portions of the United States. Agriculture, fishing, and hunting provided the food supply for a large and growing population in the area. Hunting camps and villages continue, particularly in the uplands, but towns up to 100 acres in extent with central plazas and pyramidal mounds were the homes of most of the population along the Mississippi river bluffs and flood plain. In the uplands large centers are represented only at the Obion site, on the upper North Fork of the Obion River near Paris. Major groups of town along the Mississippi River bluffs and flood plain include the Walls district of DeSoto County, Mississippi and southern Shelby county; the Tipton district of Tipton County and northern Shelby County; the Jones Bayou district of Lauderdale County; and the Reelfoot district of Lake and Obion Counties in Tennessee and western Fulton County, Kentucky. Temporal subdivisions within these districts have been defined on the basis of surface collections and limited test excavations, but large-scale excavations and the resulting detailed information about the ways of life involved, are still in the future. Many of the sites remain in excellent condition with only minor damage from agricultural or looting activities and thus represent an irreplaceable cultural resource of rapidly increasing value as the sites of the Lower Mississippi Valley vanish under the land-leveler at an ever-accelerating pace.

The appearance of the de Soto expedition in the area in 1541 at once provided a glimpse of local Mississippian culture at its peak and apparently unintentionally snuffed it out through the introduction of Old World epidemic diseases which killed most of the population. Accounts written by survivors of this expedition provide virtually our only non-archaeological window into this culture until the eighteenth century French accounts of the Natchez and their neighbors.

History: Regional Settlement

After the de Soto expedition there were no further recorded European activities in the lower Mississippi River valley until the Marquette and Jolliet expedition of 1673, when they descended the Mississippi to the vicinity of the mouth of the Arkansas River. They found no trace of the populous provinces reported by the Spanish until they reached the Quapaw at the mouth of the Arkansas. By this time the Quapaw already had European trade goods, an expectable state of affairs given the flood of trade goods pouring into Cherokee, Creek, Choctaw, and Chickasaw territory by this time as a result of the deerskin trade with Virginia and South Carolina. French activity in the Mississippi valley grew gradually, but resulted in regular travel by the early 1700's with the establishment of settlements at New Orleans, Natchez, Arkansas Post, Kaskaskia, and points north which relied upon the river system for the transportation of supplies and exports.

British claim to the territory between the Tennessee and Mississippi Rivers was solidified with the capture of French Canada, and was passed to the United States at the end of the Revolutionary War. Actual control of the area, however, rested with whichever adjacent tribal power could evict intruders first, with the Chickasaw and Shawnee as primary contenders and

others such as the Cherokee and Choctaw occasionally involved in some sectors. The Chickasaw sold Spain a tract on the Fourth Chickasaw Bluff in 1793 for Fort San Fernando and its associated settlement and trading facilities. This grant was assumed by the United States in 1798 and its uses continued as before, with Fort San Fernando replaced by a new fort and trading facilities to the south near the present railroad and highway bridges. North Carolina in particular was energetic in providing land grants in the area to Revolutionary War veterans. These grants often overlapped and rather than being settled by their nominal owners, became the subjects of rampant land speculation and decades of lawsuits. Non-tribal settlement of these lands was considered illegal until after the Jackson Purchase of the area from the Chickasaw in 1818, and squatter occupation seems to have been extremely rare in most of the area.

After the Jackson Purchase, however, the area filled rapidly, with most of the key towns and major routes of travel established by the 1830's. In general the towns were established along the major rivers which served as shipping routes served by keelboats and small steamboats, with roads both poor and of only seasonal utility. Settlement in the uplands tended to be by small-scale subsistence farmers, with large commercial plantations operated by slave labor found mainly in river bottom/floodplain areas. By the 1840's cotton was the cash crop for all, with grains and other food crops raised only to the extent necessary to supply the local population and draft animals. Effective railroad transportation in most of the area was not established until just before the Civil War, during which most of it was thoroughly destroyed.

Large troop movements through the area during the Civil War were virtually over by the middle of 1862. From then until the end of the war activity consisted of small-unit regular troop movements by both sides, mainly raids and recruiting trips by Confederate cavalry and pursuit by Union occupation troops, and a steady level of irregular and guerrilla group attacks on both military and civilian facilities. While localized damage was often severe, the project area was spared the wholesale destruction visited upon such areas as northern Virginia or the Chattanooga-Atlanta-Charleston corridor.

After the Civil War the end of the plantation-slavery agricultural system required the formation of new working relationships between the large landowners and their now free laborers in order for both to survive on the land. Tenant farming, in which the tenant supplies the labor and the landowner provides the rest of the resources to produce a crop whose proceeds are then shared, became the dominant system. Formerly tightly nucleated plantation headquarters communities became dispersed as tenant farmers were scattered along roads and bayous in small houses on the 20 to 60 acre tracts each family was now responsible for farming. Tenant farming continued until the advent of farm mechanization in the 1940's and 1950's rendered the system obsolete and the tenant farmers unnecessary.

Settlement of lowland areas was severely hampered by repeated flooding, which restricted most occupation either to rarely flooded natural levee ridges or to the adjacent uplands until the construction of relatively effective levee systems during the first half of the twentieth century. Southern timber became a more valued commodity by the 1880's with the exhaustion of the great northern forests, and commercial clearing of previously uncultivated areas began in earnest. Logging railroads and ephemeral sawmills abounded until most of the major stands of timber were

gone, by the end of the 1930's in most parts of the area. The introduction of soybeans, capable of growing well on land too wet for other commercial crops of the area, spurred the clearing of most of the final surviving tracts of lowland timber during the mid-1900's. The modern post-tenancy era emphasizes diversified wheat, soybean, rice, and sorghum/milo production which is conducted almost entirely with heavy farm equipment requiring only a fraction of the labor needed with the earlier systems of farming. Regular use of such equipment for all phases of crop production had become so extensive by the 1950's that most of the rural population was moving into the neighboring larger towns and cities in search of employment. Areas of lowlands characterized by large operations in particular have seen the peak populations of the first half of the 1900's reduced to only a relative few families today, with most of the ubiquitous small sawmill/ cotton gin communities of that era now gone.

History: Technology

The early European exploration and settlement of the area took place in the context of the dawn and then the growth of industrial technology. While portable goods of the seventeenth and eighteenth centuries were often essentially mass-produced, especially in Britain, the individual items were still primarily hand made. Serious application of the recognizable beginnings of modern natural science and engineering only reached a general scale in the waning decades of the eighteenth century. Development of steam technology in transportation had a major impact on settlement early in the nineteenth century, while advances in manufacturing and civil engineering drastically affected daily life and land use by the middle of the century. It is the rapid changes in manufacturing technology which are of particular concern in assessing both the dates and lifestyles represented at sites of the nineteenth and twentieth centuries, particularly with the drastic increases in the scale and complexity of the sociopolitical and economic systems in which the residents of the area became direct participants.

Particularly prominent in collections from the period are the ceramics and glassware of South's (1977) Kitchen Group of artifacts. Both categories are particularly affected by technological as well as stylistic changes. Prior to the early 1800's glass items were usually free-blown and shaped with paddles and other tools while still on the blowpipe or a pontil. By the second quarter of the century mold-blown glass became more common. Lipping tools inserted into the mouth of the bottle blank and turned to shape the lip area replaced the use of hand shaping techniques during the early 1870's and was used as late as about 1915. Bottles finished in this manner have their side seam mold marks truncated below the rim area and lack mold marks above this point. Commercial production by machine began in 1893 and became commonplace during the first decade of the twentieth century, augmented by fully automatic machines introduced in 1903. Bottles produced by machine have mold marks extending all the way up the rim area and across the lip. The second half of the nineteenth century saw an extremely wide variety of short-lived means of finishing and closing the mouths of glass containers as manufacturers sought solutions to the problem of developing effective and economically producible closures in the context of a highly competitive and volatile market. Technology alone thus often permits quite close dating of the manufacture of glass containers of this period. While the mineral elements used to clear or color glass are normally fairly stable, glass cleared with manganese as the agent turns amethyst (violet) in color upon extended exposure to sunlight. Manganese was a common clearing agent used in American

glass from the 1870's until the German-controlled sources of supply were cut off in 1916. Manganese usage was not resumed and amethyst-colored glass is thus an effective marker for this time period. Clear glass containers became of particular importance by the mid-nineteenth century as the public became more concerned with the ability to see the contents of a glass vessel than with the previous emphasis on the use of dark, "black" glass to protect the contents from sunlight.

Primary ceramic categories include porcelains, refined earthenwares, and stonewares. Porcelains are extremely high-fired, usually white ceramics whose technology originated in the Far East and was a closely guarded secret for centuries. White surfaced glazed earthenwares of various types have been part of the European ceramic tradition for several centuries, largely representing attempts to copy Oriental porcelains and semiporcelains. In 1813, C. J. Mason and Company introduced an extremely high-fired white earthenware known as "ironstone" or "stone china", generally fired to temperatures near or slightly above those necessary for vitrification of the clay. In the general rush to emulate this ware, Mason's fellow British competitors were far more successful than their American counterparts, hence the practice of using British-appearing marks on American imitations in an effort to make them more marketable. While there is a great variety of almost indistinguishable white earthenwares from the mid to late nineteenth century, they are now generally grouped as "whitewares" and treated according to more visible stylistic characteristics. Hand painted decorations of various kinds, along with stamping, sponge application of pigments, and transfer printing of decorations are particularly prominent during the first half of the nineteenth century, while plain white surfaces become dominant by its end.

Utilitarian stonewares have been part of the European tradition far longer than any of the whitewares, and have served both for meals and for such general household uses as pickling, butter churns, and general storage. Particularly prominent in this area are the dark brown Albany Slip ware, made in the Albany, New York area since the early 1800's; the creamy white Bristol Slip, a chemical and clay glaze slip introduced in 1884; and combinations of the two in which one is used on the vessel interior and the other on the exterior. The use of both in combination was common from 1884 until about 1920, after which time Bristol Slip alone has been in almost exclusive use. Other stonewares in use include those made with the ancient salt glaze technique, and occasionally-used products with grey, blue-grey, or a variety of colored glazes on them.

Architectural and household items such as nails, bricks, and cast iron stoves become manufactured items during the nineteenth century. Nails cut from sheet stock, giving them a rectangular cross-section come into common use during the middle of the century, then are displaced during its last quarter by even cheaper wire-based nails with characteristic round cross-sections. Manufactured brick made with a variety of machines become commonly available in the area by the 1870's. Cast iron cooking and heating stoves become common during the last half of the century, as do cast iron pitcher pumps for use on cased wells in lieu of buckets for open wells and cisterns. Internal combustion engines appear at about the turn of the twentieth century and undergo a rapid development in the design of their components, including such disposable items as spark plugs, thermostats for liquid-cooled versions, ignition distributor points, and less frequently discarded removable components which find their way into the archaeological record.

Historic Background: Exploration and Settlement

Although there was early French activity on the Mississippi River near the study area there is no evidence of local occupation. By the mid-eighteenth century French travelers were using the small river east of the study area which they called Bayou du Chien. While there was some trading with local Indians along this stream there seems to have been little impact (Lewis papers). The study area was a part of the lands claimed by the Chickasaws during the eighteenth century.

In 1775, J. F. D. Smyth, an English traveler on the Mississippi, noted a river he called the Kiskinopa, which seems to have been Bayou du Chien (Williams 1930:30-31). The first systematic exploration of the area was undertaken ten years later in June, 1785. This party, consisting of Henry Rutherford, James Robertson and Edward Harris with two assistants, explored much of West Tennessee. They found a small Indian settlement near the stream the French called Bayou du Chien. They called the river "Reelfoot" after their name for the headman of the community. In remarking on the terrain they noted that between the Mississippi River and Reelfoot cliffs there were no hills and little rolling land. Most was essentially first or second bottom land--ideal for agriculture but not for permanent settlement due to potential flooding. George Doherty of North Carolina was also in the area at the time of the Rutherford survey (Williams 1930:43-45).

The Rutherford survey attracted some interest in the study area, but the Chickasaw presence continued to be strong enough to discourage white settlement into the nineteenth century. There was, however, a growing community on the west side of the river a few miles above the present site of Tiptonville. Called New Madrid, this settlement was started by Colonel George Morgan, a prominent patriot of the American Revolution, who obtained title to the land from the Spanish (Penwick 1976:16-31).

Today New Madrid is best known in association with the great earthquakes of 1811-12. In December 1811 a series of quakes began what may have been among the most severe on record. Continuing into January, 1812, there was widespread topographical change. The land along Reelfoot Cliffs sank from one to fifty feet. As water poured in to fill the great depression, the Mississippi River is said to have run backwards for 48 hours. The result was Reelfoot Lake (Fuller 1912:9-11; Penwick 1976:43-81). Chickasaw title to the land in the study area was extinguished in 1818 by the Jackson Purchase treaty concluded by Andrew Jackson and Isaac Shelby. Serious white settlement began soon thereafter (Williams 1930:84-93).

One of the most prominent settlers in the area was George W. L. Marr, a veteran of the War of 1812 and a close personal friend of Andrew Jackson. In 1823, Marr claimed a large island in the Mississippi opposite New Madrid that was known as Island No. 10 (Henley 1962:6-7). Three years later, in 1826, the "Silver Top" plantation was established by the Merriwether family south of the study area just upriver from Tiptonville. In 1857 William Tipton, a resident of Kentucky, built a house and store on the river about a mile and a half below the Silver Top Plantation (Merriwether) on land purchased from James Reeves. The community that grew up around Tipton's store became Tiptonville (Goodspeed 1887:734).

Tiptonville served as a shipping point and mercantile center for the numerous farms in the surrounding area. Agriculture provided the economic base of the region with cotton being the principal crop. Due to an absence of suitable streams for water power, grain was ground with horse-powered mills. The first steam mill was established near Tiptonville in 1845. Although then a part of Obion County, special care was taken to hold court in the local area separate from the regular Obion County court due to transportation problems of the residents "west of the lake" (Goodspeed 1887:734-36). By 1860, the study area had developed a relatively typical slave labor-based cotton economy.

At the beginning of the Civil War the residents of Tiptonville and the surrounding area were near unanimous in their support for the Confederacy. During the war four companies were composed of men from the local area. These included "E" Company of the 15th Tennessee Regiment, "K" Company of the 33rd Tennessee Regiment, "K" Company of the 12th Kentucky Partisans (a cavalry unit serving with Forrest) and "D" Battery of the 1st Tennessee Heavy Artillery (Goodspeed 1887:734). General Leonidas Polk, commander of Confederate defenses in the Mississippi Valley, saw the local area as having critical significance in protecting the valley.

Island No. 10 became next to the northernmost of a series of fortifications extending up the Mississippi River from Memphis. Defensive works there included five batteries on the island, five batteries on the Tennessee side of the river and two earthwork forts on the Missouri side. About a mile above the New Madrid bend there was a battery containing six heavy guns. Further firepower was provided by a 16-gun floating battery moored midway along the island. An estimated 7,000 Confederate troops manned the facilities (Henley, et al., 1962:4).

Early in 1862 General U.S. Grant's offensive to the east against Forts Henry and Donelson caused the Confederates to abandon Columbus, Kentucky, sending the artillery to augment the guns at Island No. 10. Command of this position passed to General John P. McCowan in February, 1862. As he worked to strengthen the garrison, Union General John Pope was moving against the position from the Missouri side of the river. On March 3, 1862, Union forces attacked and easily overcame the two Confederate forts at New Madrid. McCowan attempted to evacuate all the men and guns but many were left behind as the boats crossed downriver to Tiptonville (Melton 1979:8).

Pope's efforts to bring the fight to Island No. 10 were blocked by the floating battery, so he occupied New Madrid while waiting the arrival of a flotilla consisting of seven ironclads and ten mortar rafts from up river. The situation was complicated by heavy rains and flooding when the flotilla arrived and was driven back up river after a bitter artillery duel. Near the end of March McCowan, due to his failure to defend New Madrid, was replaced by General W. W. Mackall. Flood waters forced the abandonment of the works above the island (Melton 1979:809).

Before daylight on April 6, 1862, two of the ironclads fought past the island to provide artillery cover for a Union crossing from New Madrid. Mackall abandoned the defenses in an attempt to save his infantry, but Union flanking movements trapped them between Reelfoot Lake and the Mississippi at Tiptonville. The Confederate forces surrendered at Tiptonville on April 7, 1862 (Melton 1979:46; Henley 1962:5-6). For all practical purposes, the capture of Island No. 10

ended the war in the local area. Tiptonville, however, as a known center of Confederate sympathizers, was shelled by Union gunboats and completely burned. No attempt at rebuilding was made while the war continued in other parts of the South.

The rebuilding of Tiptonville began in 1865, largely through the efforts of J.C. Harris and W. H. Shelton (Goodspeed 1887:735). In 1870 the Tennessee General Assembly created Lake county out of the portion of Obion county located west of Reelfoot Lake. Tiptonville was designated the county seat (Goodspeed 1887:726). Cotton remained the economic base of the area and Tiptonville was the major shipping point. A major ferry crossing was established about a mile above Tiptonville by Robert Nall.

In 1880 much of Tiptonville was destroyed by a fire. Ten years later, in 1891, the Mississippi River moved about a quarter of a mile eastward, in the process destroying the remaining portion of the original town. By 1902 the river had moved about a half mile further to the east, then beginning about 1905, shifted back to its approximate 1891 position. Another major fire in 1905 destroyed much of the remainder of the town. Arrival of the railroad in 1907 (Peacock 1977:538) provided rail transport to Dyersburg, with extension to Hickman by 1910. The timber industry became important in the area after the war. In 1885 the Keystone Lumber Company built a railroad from Reelfoot Lake to the river. Large quantities of cypress, oak and walnut were cut. In an unusual operation, sunken timber was removed from the lake itself (Lewis papers).

Even as late as the 1880's most settlement in Lake County was restricted to the high ground between Tiptonville and the Mississippi River northward to the Cates Landing area. Goodspeed (1887:854) notes that the only approximation of a village in the county other than Tiptonville was the community of Cronanville, which then consisted of a store, cotton gin, and gristmill owned by James Cronan, who had built a blacksmith shop and saloon there after the Civil War. The area seems to have been a center of activity for part of the county before Cronan's arrival. Emmet Lewis (personal communication) notes that the cemetery was started in 1838 and that a Cumberland Presbyterian church was built near the northwest corner of the cemetery about 1852 or 1853, a two story structure which also served as a community center. The 1890 Mississippi River Commission map including the area shows several structures in the vicinity, some of which appear to have still been extant as recently as the 1956 Reelfoot Lake topographic sheet and the 1965 aerial photographs used as the base for the Lake County soil map (Brown et al 1969).

FIELD METHODS AND RESULTS

The right of way was walked lengthwise in transects approximately 40 feet apart. While a variety of crops were present in early to advanced stages of growth, soil visibility was generally excellent with bare soil under the crops. No premodern artifacts were found and there were no structures present. There is no basis for revising the 2013 evaluation of 40LK121 as not in need of further work in the industrial park sector (Smith and Smith 2013).



Figure 3. View southward along right of way from southeastern corner of industrial park.



Figure 4. View eastward across right of way toward Northwest Correctional Center. Right of way is marked by tree line at eastern edge of cornfield and dry grass strip along eastern edge of soybean field.

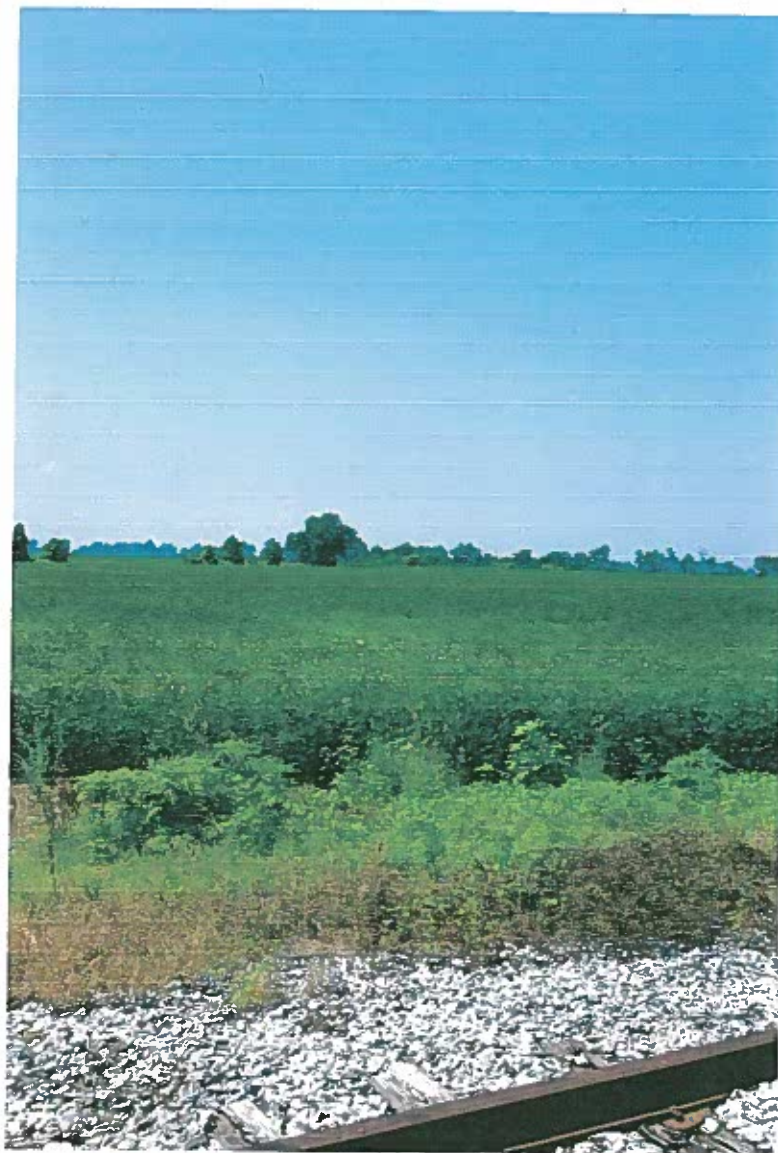


Figure 5. View northwest along right of way from main line railroad.

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