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ARCHAEOLOGICAL INVESTIGATIONS OF THE TIPTONVILLE LEVEE
PROJECT AREA ALONG OLD GRAVEYARD SLOUGH
IN LAKE COUNTY, TENNESSEE

by

Gerald P. Smith and E. Raymond Evans

September 1987

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ABSTRACT

In August/September, 1987 archaeological investigations were conducted by the authors at the proposed levee project at Old Graveyard Slough, Lake County, Tennessee. No significant cultural materials or features were encountered and implementation of the proposed levee will result in no loss of significant data. This being the case, no additional archaeological work is recommended.

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Introduction

This project was conducted to test the area to be affected by the Tiptonville Levee project along Old Graveyard Slough in Lake County, Tennessee, for the Memphis District U.S. Army Corps of Engineers. The work consisted of archaeological and historic background studies, field surface reconnaissance, and systematic shovel testing of the route. Most of the work followed the Old Graveyard Slough bank, formerly the (ca) 1905 Mississippi River bank line, and two lateral ditches. NO significant cultural resources were found. Project personnel consisted of Gerald P. Smith, Principal Investigator; E. Raymond Evans, Field Director; Kirby Koopman, draftsman; and Tina Stalliviere, laboratory assistant. Field work began August 31, 1987 and data analysis was completed September 15, 1987. The cultural materials recovered will be housed at Chucalissa Museum, Department of Anthropology, Memphis State University.

Environmental Setting

The project area is within the Lower Mississippi Alluvial Valley and has been adjacent to an active channel of the Mississippi River for more than a century in recent times. Tiptonville itself is on relatively high ground within an old meander scar and is now separated from the active channel by Tiptonville Townhead. Climate is moderate, with a growing season of about 221 days under present conditions (Brown, et. al 1969:2). Average temperatures 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 August averaging less than 3 inches for the month and 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.

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 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 the county. The central part of the county is generally relatively high and well drained except for some areas of incompletely filled meander scars, while the eastern edge is generally lower and poorly drained. Tiptonville is on high, well-drained Tiptonville Silt Loam soil on the silted-over point

bar complex inside an old meander loop scar. The northern arm of the loop is filled mainly with Iberia Silt Loam, while the southern arm includes mainly Sharkey Clay and Reelfoot Silt Loam (Brown, et al. 1969:sheet 7). The towhead formed in the late 19th Century channel along the western edge of the project area is of Bowdre Silty Clay.

Nearly all of the original forest cover of the area has been cleared for farming and the rest greatly affected by logging activities. This area has however been the focus of extensive ecological study, including reconstruction of the probable pre-clearing forest habitat by Victor Shelford (1963). His work was done before detailed soil mapping of the county and is based mainly of 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 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.

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 in elevation and extends into the clay soils of the 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 resident 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 local notation (Fig. 1) that the Mississippi River meander belt in this sector has remained essentially stable. Thus the high central portion of the 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 to 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 project area thus should have contained a Tulip-Oak forest, perhaps with cane undergrowth, swampy meander loop areas, and a nearby open river with the various bankline and sandbar habitats involved there. 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.

Previous Research: Archaeological and Historic Background

Previous research in the area has consisted largely of sporadic survey work by various staff members of Chucalissa Museum, Department of Anthropology, Memphis State University. A survey of the Reelfoot-Indian Creek drainage was conducted in the uplands to the east in 1975 by the principal investigator (Smith 1979). Surveys in the area north of Reelfoot Lake include studies of the Lake No. 9 area by Smith (1974) and by Klinger, Cande, and Kandare (1983). Recent work by Dickson and Campbell (1979) and by the Tennessee Division of Archaeology has focussed on public lands in the Reelfoot Lake basin; analysis of the Division of Archaeology data is still in progress. No previous surveys have included the specific area of this project. Human occupation of the project area and its general vicinity has

spanned thousands of years and drastic cultural changes.

Paleoindian components are characterized by a variety of large fluted projectile point types; scrapers, perforators, and gravers often made on ribbon-like blades of flint or chert; and prepared cores from which blades were struck. Flakes and non-blade cores are also present, but not distinct from those of later periods. Subsistence is conventionally considered to have been based primarily upon hunting large game animals. Social and settlement systems are thought to have consisted of small bands of kinsmen following the movement of game animals, often Pleistocene megafauna. The estimated time span of this period is about 10,000 to 8500 B.C.

The Archaic Period is a long post-Pleistocene period characterized by progressively increasing emphasis on plant foods as the primary subsistence base and increasing social complexity. Introduction of woodworking tools and grindstones, along with use of a variety of notched projectile points characterizes the Early Archaic. The points appear designed for use with spear throwers on swift-moving game such as deer rather than thrusting spears usable on slow-moving game unlikely to flee. The blade tools characteristic of the Paleoindian Period seem to have gone out of use by the end of the Early Archaic. Lower-grade and/or smaller-sized raw materials locally available replaced the relatively uncommon grades and sizes of raw material necessary for the blade-based tools and weapons. Its time span is generally thought to range from about 8500 to 5500 B.C.

Middle Archaic components in neighboring areas are characterized by stemmed projectile points, often large and

formed by minimal flaking, and ground stone tools and ornaments. The period is particularly poorly known in the region. A time span of about 5500-3500 B.C. is often cited for the period.

The late Archaic period is characterized by a variety of large stemmed point types, ground stone tools and ornaments. Many sites of the period are much larger than those of previous periods. This was the period of a series of incipient changes in subsistence and social systems which would continue through the rest of the prehistoric sequence. Among these were the beginnings of plant domestication, long-range trade in exotic raw materials and finished items, and increasingly complex social organization with definable status positions. Subsistence patterns emphasize exploitation of seasonally concentrated resources. Regional stylistic traditions of distinctive point types occur throughout the eastern United States, involving much smaller areas than in previous periods. The study area lies at the frontier between one tradition centered in the northern Mississippi Alluvial Valley and another centered in the western portion of the Tennessee River Valley.

The time span of the period varies considerably from one area to another, basically from the local end of the Middle Archaic to the beginning of the following period. The beginning of the period in the Midsouth is variably placed at either about 3500 B.C. or 2000 B.C. depending on the assignment of the Penton complex; the 3500 B.C. date will be used here. The end date of the period also varies according to the treatment and definition of the following period, usually Woodland. The non-pottery-using

Poverty Point-related cultural tradition of the Mississippi Valley has variously been considered part of the Late Archaic or as a separate cultural period in its own right (Phillips 1970). The Poverty Point-related cultures will here be considered part of a Poverty Point Period, thus placing the end of Late Archaic at about 1500 to 1000 B.C. in the Midsouth.

The Poverty Point period is a cultural period restricted to the Mississippi River alluvial valley and adjacent areas. It is marked by a distinctive series of projectile point, tool, and ornament types and by fired clay objects of various styles apparently used in earth-oven cooking. Particularly distinctive items other than the point types are a microblade industry and insect-effigy stone beads. The focal site of the period in northern Louisiana was involved in extensive trade with contemporary cultures generally considered Late Archaic and Early Woodland, utilizing items from as far away as present-day Indiana. The time span of the period approximates 1500-400 B.C., with some local variation.

The Early Woodland period in the area is marked by the appearance of ceramics locally, although complexes to the east which are usually considered Late Archaic had already been using pottery for several centuries. Point styles are derived from previous late Poverty Point styles. Burial mounds are thought to have come into use during this period. The local ceramic styles are typical of those of the lower Mississippi River valley, although the use of sandy ceramic paste and cordmarked surface finishes appear by the end of the period. A time span of about 400 B.C. - 100 A.D. would be the likely maximum for the period

locally, with a span as short as 200 B.C. - 1 A.D. possible.

Middle Woodland culture in the Midsouth is most closely related to the Millar tradition derived from the upper Tombigbee River drainage. It is characterized by sand-tempered ceramics with plain and cordmarked surface finishes. Point styles appear to continue the stemmed forms of the previous period. Burial mounds continue in use, while flat-topped mounds also appear at some major centers. An estimated time span for the period is about AD 100 - 400.

Late Woodland occupation in the area is closely tied to the Mississippi River alluvial valley and immediately adjacent areas. Characteristic artifacts include clay-tempered plain, cordmarked, and check stamped pottery; and small, thin stemmed-to-corner notched points probably used on arrows. Burial mounds continue in use. The approximate time span of the period is AD 400 - 900.

Mississippian culture in the area is also closely tied to the Mississippi River alluvial valley. It is characterized by plain, incised, engraved, and painted ceramics in a variety of forms; triangular and willow-leaf-shaped arrow points; a hierarchy of site forms ranging from camps, hamlets, and villages through villages with one or two mounds facing a central plaza to major centers with multiple large platform mounds facing one or more plazas. Large-scale corn agriculture supplemented by other crops, hunting, and fishing provided the subsistence base. Social systems may well have been tribes at the beginning of the period, but are generally considered to have become complex chiefdoms by the end. Early Mississippian ceramics are

relatively simple and clay-tempered, but the change to shell-tempered wares had taken place by about AD 1200. The total local span of the period approximates AD 900 - 1550. The period was probably effectively ended locally by virtual total depopulation through epidemics of European and African diseases immediately after passage of the DeSoto expedition through the area in 1541.

Survey work and reported site data from the loess uplands indicate occupation there at least as early as the Early Archaic period, with Paleoindian occupation probable. The earliest recorded local floodplain occupations in the area however are from Poverty Point or Early Woodland contexts (Phillips 1970; Smith 1974, 1979). Of particular importance in this regard is the age of the exposed surface deposits. Saucier (1974:22) notes that the current meander belt north of Memphis potentially contains landforms as much as 6000 years old, or dating back to the time of the late Middle Archaic or initial Late Archaic period. The age of specific exposed surfaces in the project area remains unknown. After 6000 years of repeated flooding and seismic events affecting silt deposition considerable geologic research would be required to identify exposed and submerged surfaces worthy of more intensive study for early occupations.

Examination of settlement patterns and cultural ecology remain as major needs for the area. The intensive biological research conducted in the area during the past 50 to 60 years offers a unique and significant opportunity for such studies in conjunction with augmented geological and archaeological data recovery and analysis.

Historic Background: Exploration and Settlement

Although there was French activity on the Mississippi River near the study area there is no evidence of local occupation. By the mid-eighteenth century, however, 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. There is little evidence of direct occupation and it may be assumed that the land was primarily used for hunting. Chickasaw resistance, however, sometimes in alliance with other southeastern groups, drove the Shawnees from the area in 1715, blocked an attempted Iroquois invasion of the South ca. 1732, and prevented the return of the Shawnees in 1745 (Frano n.d.).

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 (Penick 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; Penick 1976:43-81).

Chickasaw title to the land in the study area was extinguished by purchase in 1818 in a 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, et al. 1962:6-7). Three years later, in 1826, the "Silver Top" plantation was established by the Merriwether family just north of the study area upriver from the present Parks cemetery. A slave cemetery on the Silver Top Plantation is the origin of the name "old graveyard slough," but this cemetery was destroyed by changes in river channel many years ago (Lewis papers).

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 to the residents "west of the lake" (Goodspeed 1887:734-36). By 1860, the study area had developed a relatively typical slave based cotton economy.

Civil War Activity:

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. Defense works 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 redoubt containing six heavy guns. Further reinforcements were 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. McCown 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. McCown 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 and 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 redoubt above the island (Melton 1979:8-9).

On the morning of 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 him between Reelfoot Lake and the Mississippi at Tiptonville. The Confederate forces surrendered at Tiptonville on April 7, 1862 (Melton 1979:46; Henley, et al., 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 attempts at rebuilding were made as the war continued in other parts of the South.

Post War Developments:

Post war reconstruction in the study area was less bitter than in many parts of the South for two reasons. Returning veterans were all from the same side and therefore free of personal feuds that characterized many areas. Furthermore, the relatively early end to the conflict spared this area the extent of destruction seen in Georgia and 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).

As before the war, Tiptonville continued to be somewhat isolated from Obion County due to Reelfoot Lake. In 1870 the Tennessee General Assembly created Lake County out of the portion of Obion County located west of the lake. Tiptonville was designated the county seat (Goodspeed 1887:736).

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 C. Nall. This ferry was used by thousands of western emigrants in the 1870's and 80's (Lewis papers).

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 (Lewis papers).

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).

Beginning about 1905 the river shifted westward to the present channel, a point near the original channel before 1891. Old Graveyard Slough follows the 1905 river channel and marks the western limits of the modern town of Tiptonville. The land between the town and the river which was the main channel during the late nineteenth century is now used for agriculture. The remains of two steamboats have been found in this area. These are the "Guiding Star" which sank in 1885, and the "Reese Lee" which went down in 1905 (Lewis papers).

Another major fire occurred in 1905 in which most of the central business district of Tiptonville was burned. In rebuilding there was a general shift to the east due in part to the location of the Illinois Central Railroad in 1905 (Lewis papers). The oldest significant building in Tiptonville today is the Tiptonville Presbyterian Church which was built in 1892.

Historical Cultural Resources Potential:

As has been described above, river changes, wartime shelling and two disastrous fires have destroyed the original town of Tiptonville. All of the potentially significant nineteenth century sites were located west of the present town and have been destroyed by channel change. No significant standing structures are present in the area to be impacted by the project. An 1880 map prepared by the Mississippi River Commission, based on surveys made in 1879-80 shows a small house located near the southern east/west slough. This suggested the possible presence of cultural materials or features in that area. Otherwise, the

background study indicated that the presence of significant historic sites in the project area is unlikely.

Methodology for Field Research

In formulating a research design for the project area an orientation that would provide maximum potential for effective data recovery and give equal attention to both prehistoric and historic period cultural resources was sought. It was felt that to focus on changing land use/settlement patterns through time based on environmental factors would be most appropriate. The objective was the inventory and evaluation of all significant cultural resources in the impact area.

In meeting these objectives it was determined that field methodology would combine a surface reconnaissance of the entire project area with systematic subsurface testing. To establish horizontal control the point at levee mile past 0.0 on Old Graveyard Slough was designated point "A" and the norther end of the slough was designated point "B". Shovel tests conducted along this route were then designated "AB-1," "AB-2," etc. The west to east slough beginning at point "B" and extending to Highway 22 was designated "B-C" with test units being "BC-1", "BC-2", "BC-3", etc. Similarly the west to east slough extending to the Illinois Central Railroad was designated "D-E" with test units becoming "DE-1," "DE-2," "DE-3," etc.

In the field it was found that the main slough area is actually 7000 feet rather than 7500, and the smaller west to east slough designated "B-C" is actually 1000 feet rather than 500. This, however, did not affect the overall project length.

Field investigations began at point "A" on Old Graveyard Slough and covered a south to north strip extending 7000 feet in length and 100 feet in width from the top bank of the slough to the east. Shovel tests were conducted at 30 meter intervals. These test units were 30 X 30 centimeters to a depth of 50 centimeters, or more if conditions warranted. The same procedure was repeated on the west to east sloughs designated "BC" and "DE" (see Map 2 for test locations).

In summary, the field research consisted of a surface reconnaissance of 100% of the study area with shovel testing at 30 meter intervals.

The Old Graveyard Slough sector, from point "A" to point "B" was found to be thoroughly disturbed by erosion and/or earlier attempts or levee construction. In addition, the east bank from test unit AB-1 through unit AB-47 has been used as a garbage dump from the 1920's to the present. Structures present adjacent to the right-of-way in this area consist of recent abandoned or sub-standard rental houses that are slated for removal by the City of Tiptonville. A total of seventy-five shovel tests produced no significant cultural materials or features.

The west to east slough designated B-C, from the main slough to Highway 22, is a small ditch bordered on the south by a plowed field. Surface visibility was excellent but no artifacts were present. A total of five shovel tests revealed a plow zone 10 to 12 inches (25 to 30 cm) in depth overlying undisturbed dark loamy subsoil. No cultural materials or features were present.

The second side slough, designated D-E, extends from the main slough to the Illinois Central Railroad. This consisted of a small ditch. The southern side between the main slough and Highway 22 has five rental houses adjacent to the right-of-way that were moved to this location within the past 5 to 10 years. Twelve shovel tests along this area revealed much disturbance due to landscaping. No significant cultural materials or features were present. The portion of this ditch extending east from Highway 22 to the end of the street is bordered on the south by a plowed field with a tenant house in the corner. Seven shovel tests revealed a plow zone from 10 to 12 inches (25 to 30 cm) in depth overlying dark loamy subsoil. There were no in situ cultural materials or features but two test units, DE-14 and DE-18, contained material in the plow zone. The remaining portion of this ditch was bordered by a second plowed field. A total of 13 shovel tests were made with no in situ material being present. Three of the Units, DE-21, DE-22, and DE-24, contained material in the plow zone.

Results of Field Research

A total of 55 artifacts was recovered during shovel testing (see Table 1), with all the material being in the plow zone of Locality 1, between test units DE-14 and DE-24. All material was washed, labeled, and classified. Basic categories include ceramic, glass, and metal. A brief discussion of each follows:

CERAMICS:

Whiteware. A total of five sherds of undecorated whiteware were recovered. All are small and typical of common dinner

service in use since ca. 1900.

Pipe: One fragment from a short-stemmed clay tobacco pipe was recovered. It has a fold on the stem and appears to date from the mid-19th century.

Brick fragments: Two fragments of apparent hand-made brick were recovered. These items were unassociated in the plow zone.

GLASS:

Clear glass: The largest category of recovered material was clear glass fragments. A total of 26 bottle or jar fragments were recovered. Nine of the fragments were identified as coming from "Ball" canning jars. The rest were too small for identification.

Window glass: Three small pieces of clear window glass were recovered.

Pink glass: Four pieces of pink glass were recovered. One has a ribbed decorative pattern and appears to be from the base of a kerosene lamp.

Green glass: Six pieces of green glass were recovered. All of these appear to be from canning jars.

Brown glass: Three pieces of brown glass were recovered. All are from a rectangular bottle, possibly a snuff bottle.

Fused glass: One mass of melted glass was recovered. It appears to be from a clear bottle.

Milk glass: One fragment of milk glass was recovered. It is from a small cosmetic container.

METAL

Plow point: One steel plow point was recovered. It is of the type used in ca. 1930, and could be even more recent.

Ornamental rosette: A cast iron rosette was recovered. It is ornamental and probably was a decorative part from a ca. 1900 kitchen stove.

Wire: One fragment of drawn wire was recovered. It is from fencing and could date from any time from ca. 1900 to present.

Most of the recovered artifacts appear to be from the vicinity of the small house shown in the area on the Mississippi River Commission map of 1880. There are no in situ remains of the structure, which is thought to have burned around 1920 (Foster, personal communication). The artifacts will be deposited at Chucalissa Museum for curation.

Table 1. Artifacts

| | | DE-14 | DE-18 | DE-21 | DE-22 | DE-24 | Total |
|-------------------------|-----------------------|-------|-------|-------|-------|-------|-------|
| Ceramics | Whiteware | 2 | 2 | 1 | | | 5 |
| | Pipe | | | | | 1 | 1 |
| | Brick Fragments | 1 | | | 1 | | 2 |
| Glass | Clear Glass | | 1 | 9 | 16 | | 26 |
| | Window Glass | | 1 | 2 | | | 3 |
| | Pink Glass | | 1 | 1 | 2 | | 4 |
| | Green Glass | | | 5 | 1 | | 6 |
| | Brown Glass | | | 3 | | | 3 |
| | Fused Glass | | | | 1 | | 1 |
| | Milk Glass | | | | 1 | | 1 |
| Metal Iron/ Steel | Plow Point | 1 | | | | | 1 |
| | Ornamental Rosette | | | 1 | | | 1 |
| | Wire | | | 1 | | | 1 |
| Total | | 4 | 5 | 23 | 22 | 1 | 55 |

Recommendations

The survey work revealed no prehistoric archaeological remains and no standing structures of significance. A scatter of early 20th Century debris was found in plow zone context in sector D-E. While the 1880 Mississippi River Commission map shows a structure in the vicinity, the artifacts recovered postdate this period and local informant data indicates a tenant house in the area of recovery which burned in the 1920's. Negative evidence regarding extensive pre-1900 occupation is lack of the usual profusion of patent medicine bottles typical of 1870-1910 era sites. Surviving local records add no further information. It thus appears that the one area of potential occupation is not of significance and that no further cultural resource investigations are necessary in connection with this project.

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Emmitt Lewis Papers: early maps, photographs, and manuscripts on Tiptonville area.

Franko Papers: manuscript collection. On file at Lake County Public Library.

Tiptonville Informants

Richard Jones, editor of The Lake County Banner.

Ms. Edna Rhodes, Tiptonville Librarian

J. L. Norris, Tiptonville businessman

Emmitt Lewis, Local historian

Bill Lewis, Tiptonville mayor

Jack Ore, Tiptonville Police Department

Burmon Howard, Tiptonville Police Department

Guyland Todd, Tiptonville Police Department

Ms. Darla Jackson, Local Resident

Ms. May Brown, Local Resident

Ms. Caroline Work, Local Resident

Other Personal Communication

Patricia Coats, DOA Site File, Nashville

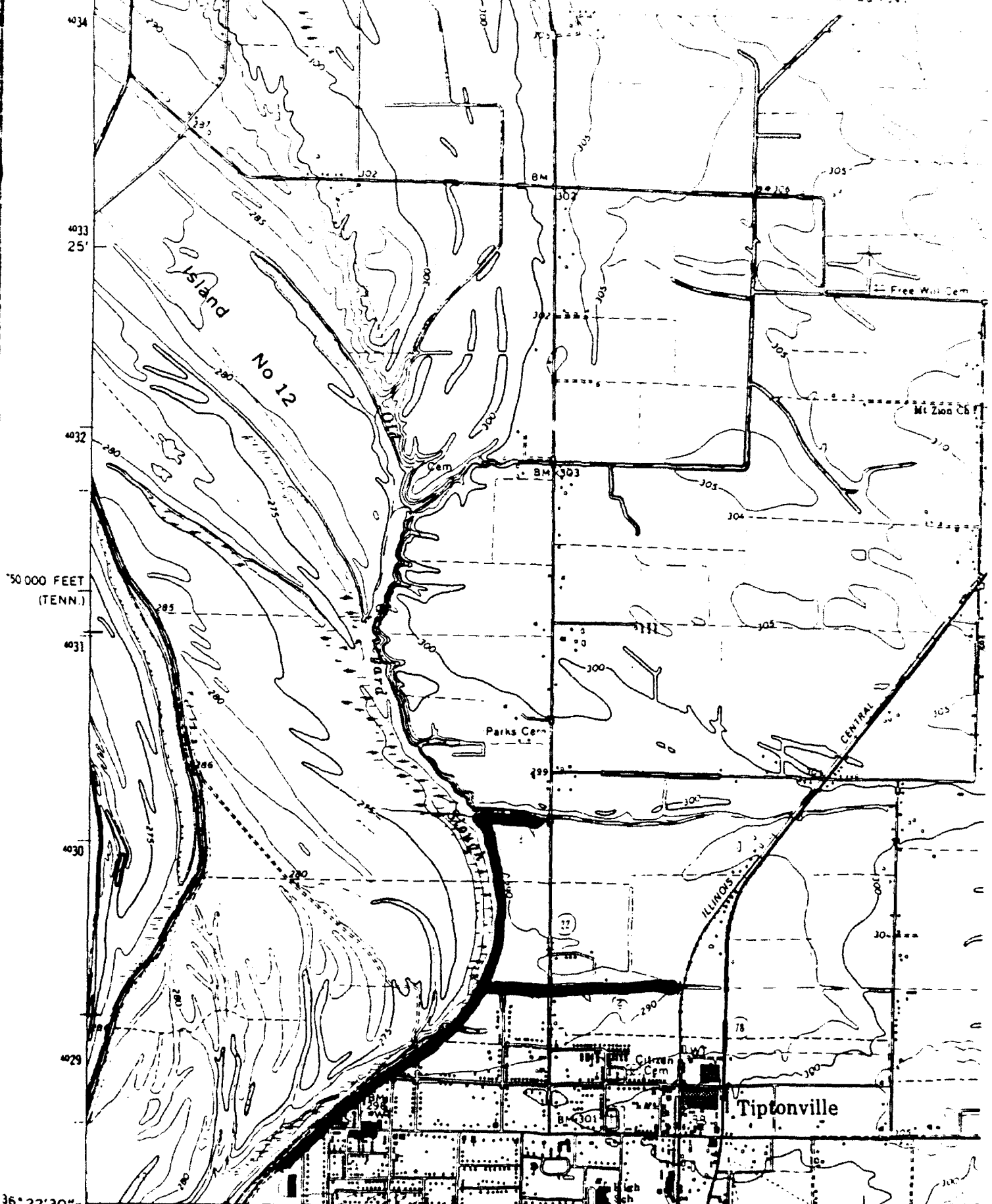
TIPTONVILLE, TENN. - MO. - KY.

N3522 5 - 48922 5 10

1964

PHOTOREVISED 1981

DMA 5156 17 74W SERIES 134



50 000 FEET (TENN.)

36° 22' 30" 90° 30' 00" FEET (TENN.)

26 MI TO MO 162

78

WYNSBURG 33 MI. 27'30" MAP 1

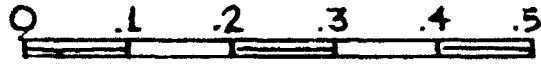
HISTORIC SITE MAP

TIPTONVILLE, TN.

EXISTING FEATURES — ■

HISTORIC FEATURES -- □

SCALE IN MILES



TO NALLS FERRY
(CA 1865-1885)

SLAVE
QUARTERS &
CEMETARY

MERRIWETHER
PLANTATION
(CA 1826-1880)

PRESENT RIVER

PRE 1891-92 RIVER BANK

1891-92 RIVER BANK

HIGH
GRAVELARD SLOUGH
1902 RIVER BANK & OLD GRAVELARD SLOUGH

DONALDSON
FARM (CA 1860)

CONFEDERATE
SURRENDER
(1862)

TRAMWAY
(CA 1885-91)

ORIGINAL
TIPTON STORE
(CA 1857-1862)

TENANT
HOUSE
(CA 1880-
1920)

TO KEYSTONE
LUMBER CO →

STEAMBOAT
LANDING &
WAREHOUSE
(CA 1857-1891)

BLACKSMITH
SHOP

LAKE STREET

CHURCH ST.

TIPTONVILLE
PRESBYTERIAN
CHURCH
(CA 1892-PRES)

ILLINOIS CENTRAL RAILROAD

HWY 78

POINT 'C'

HWY 22

DE24

DE22

DE21

DE18

POINT 'D'

POINT 'E'

HWY 21

TIPTONVILLE

POINT 'B'

275

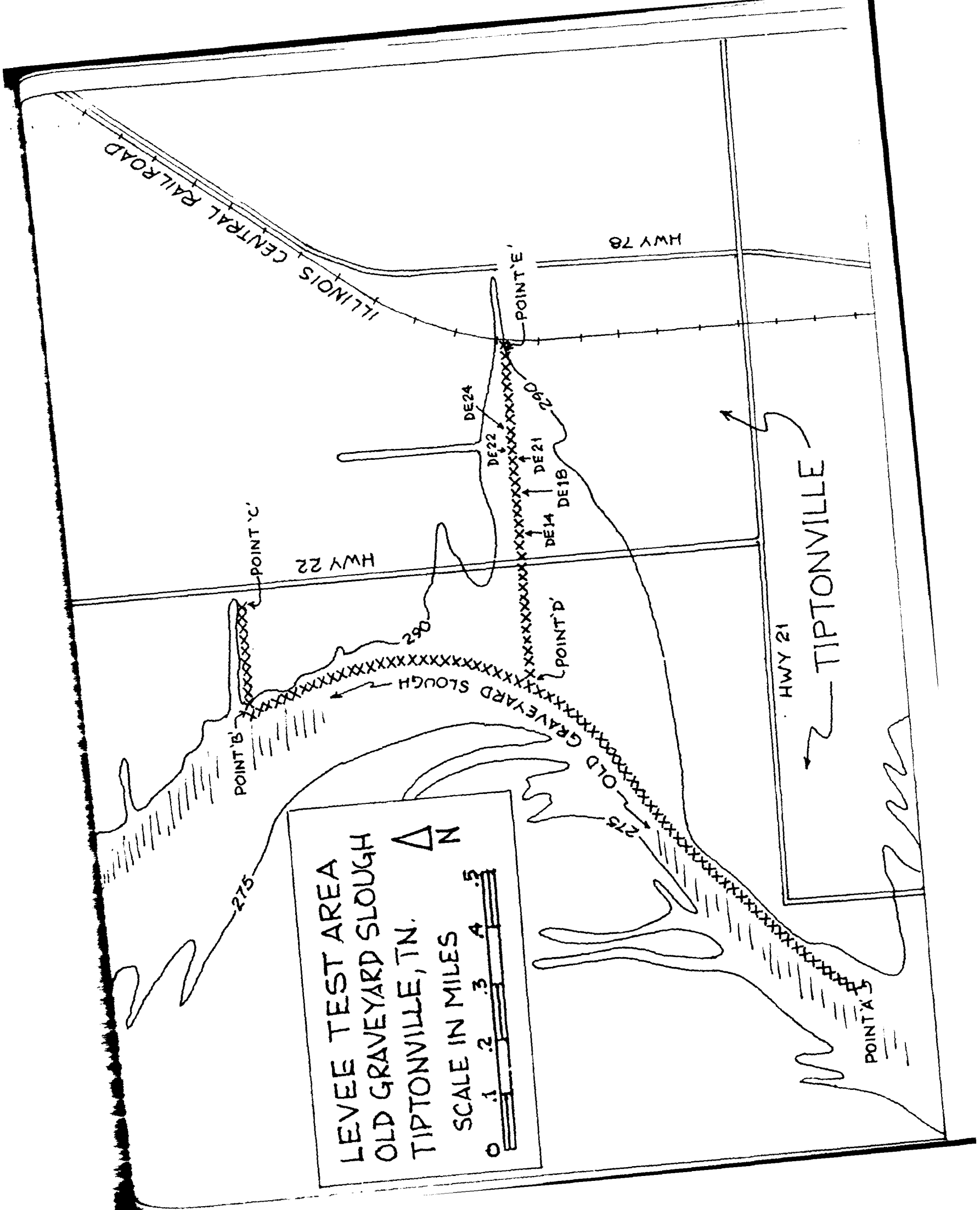
OLD GRAVEYARD SLOUGH

273

POINT 'A'

LEVEE TEST AREA
 OLD GRAVEYARD SLOUGH
 TIPTONVILLE, TN. Δ N

SCALE IN MILES



SECTION C

SCOPE OF WORK

Archeological Intensive Survey of the Tiptonville Levee Project, Tiptonville, Lake County, Tennessee.

1. GENERAL.

1.01. The Contractor shall conduct a background and literature search and intensive survey level investigation of the Tiptonville Levee Project, Tiptonville, Lake County, Tennessee. These tasks are in partial fulfillment of the Memphis District's obligations under the National Historic Preservation Act of 1966 (P.L. 89665); the National Environment Policy Act of 1969 (P.L. 91-190); Executive Order 11593, "Protection and Enhancement of Cultural Environment," 13 May 1971 (360FR3921); Preservation of Historic and Archeological Data, 1974 (P.L. 93-291); and the Advisory Council on Historic Preservation, "Procedures for the Protection of Historic and Cultural Properties" (36 CFR 8, Part 800).

1.02. Personnel Standards.

a. The Contractor shall utilize a systematic, interdisciplinary approach to conducting the study. Specialized knowledge and skills will be used during the course of the study to include expertise in archeology, history, architecture, geology and other disciplines as required. Techniques and methodologies used for the study shall be representative of the state of current professional knowledge and development.

b. The following minimal experiential and academic standards shall apply to personnel involved in cultural resources investigations described in this Scope of Work:

(1) Archeological Project Directors or Principal Investigators (PI). Individuals in charge of an archaeological project or research investigation contract, in addition to meeting the appropriate standards for archaeologist, must have a publication record that demonstrates extensive experience in successful field project formulation, execution and technical monograph reporting. The Contracting Officer may also require suitable professional references to obtain estimates regarding the adequacy of prior work.

(2) Archaeologist. The minimum formal qualifications for individuals practicing archaeology as a profession are a B.A. or B.S. degree from an accredited college or university, followed by a minimum of two years of successful graduate study with concentration in anthropology and specialization in archeology and at least two summer field schools or their equivalent under the supervision of archeologists or recognized competence. A Master's thesis or its equivalent in research and publication is highly recommended, as is the M.A. degree.

(3) Other Professional Personnel. All non-archeological personnel utilized for their special knowledge and expertise must have a B.A. or B.S. degree from an accredited college or university, followed by a minimum of one year of successful graduate study with concentration in appropriate study.

(4) Other Supervisory Personnel. Persons in any archeological supervisory position must hold a B.A., B.S. or M.A. degree with a concentration in archeology and a minimum of 2 years of field and laboratory experience

(5) Crew Members and Lab Workers. All crew members and lab workers must have prior experience compatible with the tasks to be performed under this contract. An academic background in archeology/anthropology is highly recommended.

c. All operations shall be conducted under the supervision of qualified professionals in the discipline appropriate to the data that is to be discovered, described or analyzed. Vitae of personnel involved in project activities may be required by the Contracting Officer at anytime during the period of service of this contract.

1.03. The Contractor shall designate in writing the name of the Principal Investigator. Participation time of the Principal Investigator shall average a minimum of 50 hours per month during the period of service of this contract. In the event of controversy or court challenge, the Principal Investigator shall be available to testify with respect to report findings. The additional services and expenses would be at Government expense, per paragraph 1.08 below.

1.04. The Contractor shall keep standard field records which will include, but are not limited to, field notebooks, state approved site forms, (prehistoric, historic, architectural), field data forms and graphics and photographs. Publishable quality site maps with precise boundaries and proposed impact boundaries will be submitted for each site.

1.05. To conduct the field investigation, the Contractor will obtain all necessary permits, licenses, and approvals from all local, state and Federal authorities. Should it become necessary in the performance of the work and services of the Contractor to secure the right of ingress and egress to perform any of the work required herein on properties not owned or controlled by the Government, the Contractor shall secure the consent of the owner, his representative, or agent, prior to effecting entry on such property.

1.06. Innovative approaches to data location, collection, description and analysis, consistent with other provisions of this purchase order and the Cultural Resources requirements of the Memphis District, are encouraged. Such approaches will require prior consultation with the Contracting Officer and/or his authorized representative.

1.07. No mechanical power equipment shall be utilized in any cultural resource activity without specific written permission of the Contracting Officer.

1.08. Techniques and methodologies used during the mitigation shall be representative of the current state of knowledge for their respective disciplines.

1.09. The Contractor shall furnish expert personnel to attend conferences and furnish testimony in any judicial proceedings involving the archaeological and historical study, evaluation, analysis and report. When required, arrangements for these services and payment therefor will be made by representatives of either the Corps of Engineers or the Department of Justice.

1.10. The Contractor shall supply such graphic aids (ex: profile and plan drawings) or tables as are necessary to provide a ready and clear understanding of spatial relationships or other data discussed in the text of the report. Such tables or figures shall appear as appropriate in the body of the report.

1.11. The Contractor, prior to the acceptance of the final report, shall not release any sketch, photograph, report or other material of any nature obtained or prepared under this contract without specific written approval of the Contracting Officer.

1.12. The extent and character of the work to be accomplished by the Contractor shall be subject to the general supervision, direction, control and approval of the Contracting Officer. The Contracting Officer may have a representative of the Government present during any or all phases of the described cultural resource project.

2. STUDY AREA.

2.01. The Tiptonville Levee Project is in Lake County near Tiptonville Tennessee. Beginning at levee mile past 0.0, left descending bank, on Old Graveyard Slough survey in the northward direction 7500 feet. The right of way begins at the slough top bank and extends east 100 feet. At 4300 feet along the slough a side slough is encountered. This slough is to be survey (south side; 100 feet width) until it intersects the Illinois Central railroad (3200 feet away).

At the 7500 foot point a second side slough is encountered. This slough is to be surveyed (South side; 100 feet wide) until it reaches (500 feet away) highway 22.

The total area to be surveyed is approximately 26 acres. See attached maps. The Tiptonville, Tenn. - Mo. - Ky, 7.5 minute quadrangle map may be used for reference.

3. DEFINITIONS.

3.01. "Cultural resources" are defined to include any buildings, site, district, structure, object, data, or other material relating to the history, architecture, archeology, or culture of an area.

3.02. "Background and Literature Search" is defined as a comprehensive examination of existing literature and records for the purpose of inferring the potential presence and character of cultural resources in the study area. The examination may also serve as collateral information to field data in evaluating the eligibility of cultural resources for inclusion in the National Register of Historic Places or in ameliorating losses of significant data in such resources.

3.03. "Intensive Survey" is defined as a comprehensive, systematic, and detailed on-the-ground survey of an area, of sufficient intensity to determine the number, types, extent and distribution of cultural resources present and their relationship to project features.

3.04. "Mitigation" is defined as the amelioration of losses of significant prehistoric, historic, or architectural resources which will be accomplished through preplanned actions to avoid, preserve, protect, or minimize adverse effect upon such resources or to recover a representative sample of the data they contain by implementation of scientific research and other professional techniques and procedures. Mitigation of losses of cultural resources includes, but is not limited to, such measures as: (1) recovery and preservation of an adequate sample of archaeological data to allow for analysis and published interpretation of the cultural and environmental conditions prevailing at the time(s) the area was utilized by man; (2) recording, through architectural quality photographs and/or measured drawings of buildings, structures, districts, sites and objects and deposition of such documentation in the Library of Congress as a part of the National Architectural and Engineering Record; (3) relocation of buildings, structures and objects; (4) modification of plans or authorized projects to provide for preservation of resources in place; (5) reduction or elimination of impacts by engineering solutions to avoid mechanical effects of wave wash, scour, sedimentation and related processes and the effects of saturation.

3.05. "Reconnaissance" is defined as an on-the-ground examination of selected portions of the study area, and related analysis adequate to assess the general nature of resources in the overall study area and the probable impact on resources of alternate plans under consideration. Normally reconnaissance will involve the intensive examination of not more than 15 percent of the total proposed impact area.

3.06. "Significance" is attributable to those cultural resources of historical, architectural, or archaeological value when such properties are included in or have been determined by the Secretary of the Interior to be eligible for inclusion in the National Register of Historic Places after evaluation against the criteria contained in How to Complete National Register Forms.

3.07. "Testing" is defined as the systematic removal of the scientific, prehistoric, historic, and/or archaeological data that provide an archeological or architectural property with its research data value. Testing may include controlled surface survey, shovel testing, profiling, and limited subsurface test excavations of the properties to be affected for purposes of research planning, the development of specific plans for research activities, excavation, the development of specific plans for research activities, preparation of notes and records, and other forms of physical removal of data and the material analysis of such data and material, preparation of reports on such data and material and dissemination of reports and other products of the research. Subsurface testing shall not proceed to the level of mitigation.

3.08. "Analysis" is the systematic examination of material data, environmental data, ethnographic data, written records, or other data which may be prerequisite to adequately evaluating those qualities of cultural loci which contribute to their significance.

4. GENERAL PERFORMANCE SPECIFICATIONS.

4.01. Research Design.

Survey and testing will be conducted within the framework of a regional research design including, where appropriate, questions discussed in the State Plan (if one exists). All typological units not generated in these investigations, shall be adequately referenced. It should be noted that artifactual typologies constructed for other areas may or may not be suitable for use in the study area. It is, therefore, of great importance that considerable effort be spent in recording and describing artifactual characteristics treated as diagnostic in this study as well as explicit reasons for assigning (or not assigning) specific artifacts to various classificatory units.

4.02. Background and Literature Search.

a. This task shall include an examination of the historic and prehistoric environmental setting and cultural background of the study area and shall be of sufficient magnitude to achieve a detailed understanding of the overall cultural and environmental context of the study area. It is axiomatic that the background and literature search shall normally precede the initiation of all fieldwork.

b. Information and data for the literature search shall be obtained, as appropriate, from the following sources: (1) Scholarly reports - books, journals, theses, dissertations and unpublished papers; (2) Official Records Federal, state, county and local levels, property deeds, public works and other regulatory department records and maps; (3) Libraries and Museums - both regional and local libraries, historical societies, universities, and museums; (4) other repositories - such as private collections, papers, photographs, etc.; (5) archeological site files at local universities, the

State Historic Preservation Office, the State Archeologist; (6) Consultation with qualified professionals familiar with the cultural resources in the area, as well as consultation with professionals in associated areas such as history, sedimentology, geomorphology, agronomy, and ethnology.

c. The Contractor shall include as an appendix to the draft and final reports written evidence of all consultation and any subsequent response(s), including the dates of such consultation and communications.

d. The background and literature search shall be performed in such a manner as to facilitate predictive statements (to be included in the study report) concerning the probable quantity, character, and distribution of cultural resources within the project area. In addition, information obtained in the background and literature search should be of such scope and detail as to serve as an adequate data base for subsequent field work and analysis in the study area undertaken for the purpose of discerning the character, distribution and significance of identified cultural resources.

e. In order to accomplish the objectives described in paragraph 4.02.d., it will be necessary to attempt to establish a relationship between landforms and the patterns of their utilization by successive groups of human inhabitants. This task should involve defining and describing various zones of the study area with specific reference to such variables as past topography, potential food resources, soils, geology, and river channel history.

4.03. Intensive Survey.

a. Intensive Survey shall include the on-the-ground examination of the project areas described in paragraph C-2.01 sufficiently to insure the location and preliminary evaluation of all cultural resources in the study area and to fulfill report requirements described for intensive survey in paragraph C-5.03j. Survey transects shall be a maximum of 30 meters wide.

b. Unless excellent ground visibility and other conditions conducive to the observation of cultural evidence occurs, shovel test pits, or comparable subsurface excavation units, shall be installed at intervals no greater than 30 meters throughout the study area. Shovel test pits shall be minimally 30 X 30 centimeters in size and extend to a minimum depth of 50 centimeters. All such units shall be screened using 1/4" mesh hardware cloth. Additional shovel test pits shall be excavated in areas judged by the Principal Investigator to display a high potential for the presence of cultural resources. If, during the course of intensive survey activities, areas are encountered in which disturbance or other factors clearly and decisively preclude the possible presence of significant cultural resources, the Contractor shall carefully examine and document the nature and extent of the factors and then proceed with survey activities in the remainder of the study area. Documentation and justification of such action shall appear in the survey report. The location of all shovel test units and surface observations shall be recorded and appear in the draft and final reports.

c. When cultural remains are encountered, horizontal site boundaries shall be derived by appropriate archaeological methods in such a manner as to allow precise location of site boundaries on Government project drawings and 7.5 minute U.S.G.S. quad maps when available. Methods used to establish site boundaries shall be discussed in the survey report together with the probable accuracy of the boundaries. The Contractor shall establish a datum at the discovered cultural loci which shall be precisely related to the site boundaries as well as to a permanent reference point (in terms of azimuth and distance). If possible, the permanent reference point used shall appear on Government blue-line (project) drawings and/or 7.5 minute U.S.G.S. quad maps. If no permanent landmark is available, a permanent datum shall be established in a secure location for use as a reference point. The permanent datum shall be precisely plotted and shown on U.S.G.S. quad maps and project drawings. All descriptions of site location shall refer to the location of the primary site datum.

d. The Contractor shall examine all cultural resources encountered in the intensive survey sufficiently well to determine the approximate size, general nature and quantity of architectural or site surface data. Data collection shall be of sufficient scope to provide information requested on state site forms.

e. During the course of the intensive survey, the Contractor should observe and record local environmental, physiographic, geological or other variables (including estimates of ground visibility and descriptions of soil characteristics) which may be useful in evaluating the effectiveness of survey procedures and providing comparative data for use in predictive statements which may be utilized in future Government cultural resource investigations.

f. When sites are not wholly contained within the right-of-way limits, the Contractor shall survey an area outside the right-of-way limits large enough to include the entire site within the survey area. This shall be done in an effort to delineate site boundaries and to determine the degree to which the site will be impacted.

g. All standing buildings and structures (other than those patently modern, I.E., less than 50 years old) shall be recorded and described. For a building to be considered "standing" it must retain four walls and at least a skeletal roof structure. A building or structure found in the field to be partially or totally collapsed will be considered an archeological site. In these cases, data concerning construction materials and techniques and floor plan, if discernible, must be collected. The Contractor shall supply preliminary information concerning the suitability of a structure or building for relocation and restoration (structural soundness for example).

h. Site Specific Investigations. All cultural resources discovered within survey area shall be examined by methods consistent with the following requirements:

(1) Site Boundaries.

Horizontal site boundaries shall be derived by the use of surface observation procedures (where surface conditions are highly conducive to the observation of cultural evidence) or by screened shovel cut units or by a combination of these methods. The delineations of horizontal sites boundaries may be accomplished concurrently with the collection of other data consistent with paragraph 4.03g.(2). Site boundaries shall be related to a site datum and permanent reference point as described in paragraph 4.03c.

(2) Surface Data Retrieval.

Surface collection of the site area shall be accomplished in order to obtain data representative of total site surface content. Both historic and prehistoric items shall be collected. The Contractor shall carefully note and record descriptions of surface conditions of the site including ground cover and the suitability of soil surfaces for detecting cultural items (ex: recent rainfall, standing water or mud). If ground surfaces are not highly conducive to surface collection, screened shovel test units shall be used to augment surface collection procedures. It should be noted, however, that such units should be substituted for total surface collection only where the presence of groundcover requires such techniques.

Care should be taken to avoid bias in collecting certain classes of data or artifact types to the exclusion of others (ex: debitage or faunal remains) so as to insure that collections accurately reflect both the full range and the relative proportions of data classes present (ex: the proportion of debitage to implements or types of implements to each other). Such a collecting strategy shall require the total collection of quadrat or other sample units in sufficient quantities to reasonably assure that sample data are representative of such discrete site subareas as may exist. Since the number and placement of such sample units will depend, in part, on the subjective evaluation of intrasite variability, and the amount of ground cover, the Contractor shall describe, in the reconnaissance report, the rationale for the number and distribution of collection units. In the event that the Contractor utilizes systematic sampling procedures in obtaining representative surface samples, care should be taken to avoid periodicity in recovered data. No individual sample unit type used in surface data collection shall exceed 36 square meters in area. Unless a smaller fraction is approved by the Contracting Officer, surface collected areas shall constitute no less than 25 percent of total site areas. Detailed results of controlled surface collections shall be graphically depicted in plan view in the report of investigations.

The Contractor shall undertake (in addition and subsequent to sample surface collecting) a general site collection in order to increase the sample size of certain classes of data which the Principal Investigator may deem prerequisite to an adequate site-specific and intersite evaluation of data.

As an alternative to surface collecting procedures discussed above, where surface visibility is excellent, the Contractor may collect all visible artifacts. If such a procedure is undertaken, the precise proveniences of all individual artifacts shall be related to the primary site datum by means of a transit level.

(3) Subsurface Data Retrieval.

Unless it can be conclusively and definitely demonstrated that no significant subsurface cultural resources occur at a site, the Contractor shall install a minimum of one 1 X 1 meter subsurface test unit to determine the presence and general nature of subsurface deposits.

h. Subsurface test units (other than shovel cut units) shall be excavated in levels no greater than 10 centimeters. Where cultural zonation or plow disturbance is present, however, excavated materials shall be removed by zones (and 10 cm. levels within zones where possible). Subsurface test units shall extend to a depth of at least 20 centimeters below artifact bearing soils. A portion of each test unit, measured from one corner (of a minimum 30 X 30 centimeters), shall be excavated to a depth of 40 centimeters below artifact bearing soils. All excavated material (including plow zone material) shall be screened using a minimum of 1/4" hardware cloth. Representative profile drawings shall be made of excavated unit. Subsequent to preparation of profile drawings for each test unit, the unit shall be backfilled and compacted to provide reasonable pedestrian safety.

i. Stringent horizontal spatial control of site specific investigations will be maintained by relating the location of all collection and test units to the primary site datum either by means of a grid system (including those used in controlled surface collection) or by azimuth and distance.

j. Other types of subsurface units may, at the Contractor's option, be utilized in addition to those units required by this Scope of Work.

k. Subsurface investigations will be limited to testing and shall not proceed to the level of mitigation.

l. All test units excavated shall be backfilled by the Contractor.

m. Cultural Resource Recording and Numbering. For each archeological site or architectural property recorded during the survey, the Contractor shall complete and submit the standard Tennessee Archeological site or architectural property survey form, respectively. The Contractor shall be responsible for reproducing or obtaining a sufficient quantity of these forms to meet the needs of the project. The Contractor shall be responsible for coordinating with the appropriate state agency to obtain state site-file numbers for each archeological site and architectural property recorded.

4.04. Additional Investigations.

(1) Additional subsurface test units may be required at many loci. The proposed number and distribution of such test units shall be recommended by the Principal Investigator on a site specific basis. This recommendation shall be made based on such variables as site size and potential intrasite variability, including, physiographic and geomorphic characteristics of the loci which may suggest variability in the presence or distribution of subsurface cultural deposits. The Contractor shall detail the rationale(s) for the placement and numbers of proposed test units in the management summary and report of field activities. Additional reporting requirements, examination of background literature and examination of standing buildings and structures may also be required at some sites. The exact nature of additional examination, the schedule, and the price of the work shall be negotiated with the Contracting Officer, and if an agreement is reached, a Change Order shall be issued prior to conduct of the work. Additional investigations will provide a data base of sufficient nature to allow determination of site eligibility to the National Register of Historic Places consistent with C-5.3.j.12) and (3) of this Scope of Work.

(2) In order to accurately relate a site to research domains, (i.e. assess significance or insignificance), a variety of data gathering techniques may be required to ensure recovery of the various types of data which may be present at the site. These techniques may include radiocarbon dating, flotation and excavation of cultural features. When appropriate, these types of data gathering activities should be integral elements of the testing strategy.

4.05. Laboratory Processing, Analysis, and Preservation.

All cultural materials recovered will be cleaned and stored in deterioration resistant containers suitable for long term curation. Diagnostic artifacts will be labeled and catalogued individually. A diagnostic artifact is defined herein as any object which contributes individually to the needs of analysis required by this Scope of Work or the research design. All other artifacts recovered must minimally be placed in labeled, deterioration resistant containers, and the items catalogued. The Contractor shall describe and analyze all cultural materials recovered in accordance with current professional standards. Artifactual and non-artifactual analysis shall be of an adequate level and nature to fulfill the requirements of this Scope of Work. All recovered cultural items shall be catalogued in a manner consistent with Tennessee state requirements. The Contractor shall consult with appropriate state officials as soon as possible following the conclusion of field work in order to obtain information (ex: accession numbers) prerequisite to such cataloging procedures.

4.06. Curation.

Efforts to ensure the permanent curation of properly cataloged cultural resources materials and project documentation in an appropriate institution shall be considered an integral part of the requirements of this Scope of Work. The Contractor shall pay all costs of the preparation and permanent curation of records and artifacts. An arrangement for curation shall be confirmed by the Contractor, subject to the approval of the Contracting Officer, prior to the acceptance of the final report.

5. GENERAL REPORT REQUIREMENTS.

5.01. The primary purpose of the cultural resources report is to serve as a planning tool which aids the Government in meeting its obligations to preserve and protect our cultural heritage. The report will be in the form of a comprehensive, scholarly document that not only fulfills mandated legal requirements but also serves as a scientific reference for future cultural resources studies. As such, the report's content must be not only descriptive but also analytic in nature.

5.02 Upon completion of all field investigation and research, the Contractor shall prepare a report detailing the work accomplished, the results, the recommendations, and appropriate alternative mitigation measures, when required, for the project area. The format suggested by state guidelines (if existing) should be reviewed and, to the extent allowed by this Scope of Work utilized as an aid in preparing the required report.

C-5.03. The report shall include, but not necessarily be limited to, the following sections and items:

a. Title Page. The title page should provide the following information; the type of task undertaken, the cultural resources which were assessed (archeological, historical, architectural); the project name and location (county and state), the date of the report; the Contractor's name; the contract number; the name of the author(s) and/or the Principal Investigator; and the agency for which the report is being prepared.

b. Abstract. The abstract should include a summary of the number and types of resources which were surveyed, results of activities and the recommendations of the Principal Investigator.

c. Table of Contents.

d. Introduction. This section shall include the purpose of the report; a description of the proposed project; a map of the general area; a project map; and the dates during which the task was conducted. The introduction shall also contain the name of the institution where recovered materials will be curated.

e. Environmental Context. This section shall contain, but not be limited to, a discussion of probable past floral and faunal characteristics of the project area. Since data in this section may be used in the future evaluation of specific cultural resource significance, it is imperative that the quantity and quality of environmental data be sufficient to allow subsequent detailed analysis of the relationship between past cultural activities and environmental variables.

f. Previous Research. This section shall describe previous research which may be useful in deriving or interpreting relevant background research data, problem domains, or research questions and in providing a context in which to examine the probability of occurrence and significance of cultural resources in the study area.

g. Literature Search and Personal Interviews. This section shall discuss the results of the literature search, including specific data sources, and personal interviews which were conducted during the course of investigations.

h. Survey, Testing and Analytical Methods. This section shall contain an explicit discussion of research and/or survey strategy, and should demonstrate how environmental data, previous research data, the literature search and personal interviews have been utilized in constructing such a strategy.

i. Survey, Testing and Analytical Results. This section shall discuss archeological, architectural, and historical resources surveyed, tested and analyzed; the nature and results of analysis, and the scientific importance or significance of the work. Quantified listings and descriptions of artifacts and their proveniences may be included in this section or added to the report as an appendix. Inventoried sites shall include a site number.

j. Recommendations.

(1) This section should contain, where possible, assessments of the eligibility of specific cultural properties in the study area for inclusion in the National Register of Historic Places.

(2) Significance should be discussed explicitly in terms of previous regional and local research and relevant problem domains. Statements concerning significance shall contain a detailed, well-reasoned argument for the property's research potential in contributing to the understanding of cultural patterns, processes or activities important to the history or prehistory of the locality, region or nation, or other criteria of significance. Conclusions concerning insignificance likewise, shall be fully documented and contain detailed and well-reasoned arguments as to why the property fails to display adequate research potential or other characteristics adequate to meet National Register criteria of significance. For example, conclusions concerning significance or insignificance relating solely to the lack of contextual integrity due to plow disturbance or the

lack of subsurface deposits will be considered inadequate. where appropriate, due consideration should be given to the data potential of such variables as site functional characteristics, horizontal intersite or intrasite spatial patterning of data and the importance of the site as a representative systemic element in the patterning of human behavior. All report conclusions and recommendations shall be logically and explicitly derived from data discussed in the report.

(3) The significance or insignificance of cultural resources can be determined adequately only within the context of the most recent available local and regional data base. Consequently the evaluation of specific individual cultural loci examined during the course of contract activities shall relate these resources not only to previously known cultural data but also to a synthesized interrelated corpus of data including those data generated in the present study.

(4) Where appropriate, the Contractor shall provide alternative mitigation measures for significant resources which will be adversely impacted. Data will be provided to support the need for mitigation and the relative merits of each mitigation design will be discussed. Preservation of significant cultural resources is nearly always considered preferable to recovery of data through excavation. When a significant site can be preserved for an amount reasonably comparable to, or less than the amount required to recover the data, full consideration shall be given to this course of action.

k. References (American Antiquity Style).

1. Appendices (Maps, correspondence, etc.). A copy of this Scope of Work shall be included as an appendix in all reports.

5.04. The above items do not necessarily have to be discrete sections; however, they should be readily discernible to the reader. The detail of the above items may vary somewhat with the purpose and nature of the study.

5.05. In order to prevent potential damage to cultural resources, no information shall appear in the body of the report which would reveal precise resource location. All maps which indicate or imply precise site locations shall be included in reports as a readily removable appendix (ex: envelope).

5.06. No logo or other such organizational designation shall appear in any part of the report (including tables or figures) other than the title page.

5.07. Unless specifically authorized by the Contracting Officer, all reports shall utilize permanent site numbers assigned by the state in which the study

5.08. All appropriate information (including typologies and other classificatory units) not generated in these contract activities shall be suitably referenced.

5.09. Reports detailing testing activities shall contain site specific maps. Site maps shall indicate site datum(s), location of data collection units (including shovel cuts, subsurface test units and surface collection units); site boundaries in relation to proposed project activities, site grid systems (where appropriate) and such other items as the Contractor may deem appropriate to the purposes of this contract.

5.10. Information shall be presented in textual, tabular, and graphic forms, whichever are most appropriate, effective and advantageous to communicate necessary information. All tables, figures and maps appearing in the report shall be of publishable quality.

5.11. Any abbreviated phrases used in the text shall be spelled out when the phrase first occurs in the text. For example use "State Historic Preservation Officer (SHPO)" in the initial reference and thereafter "SHPO" may be used.

5.12. The first time the common name of a biological species is used it should be followed by the scientific name.

5.13. In addition to street addresses or property names, sites shall be located on the Universal Transverse Mercator (UTM) grid.

5.14. All measurements should be metric. If the Contractor's equipment is in the English system, then the metric equivalents should follow in parentheses.

5.15. As appropriate, diagnostic and/or unique artifacts, cultural resources or their contexts shall be shown by drawings or photographs.

5.16. Black and white photographs are preferred except when color changes are important for understanding the data being presented. No instant type photographs may be used.

5.17. Negatives of all black and white photographs and/or color slides of all plates included in the final report shall be submitted so that copies for distribution can be made.

6. SUBMITTALS.

6.01. The Contractor shall, unless delayed due to causes beyond his fault or negligence, complete all work and services under the purchase order within the following time limitations after receipt of notice to proceed.

a. An extensive management summary shall be submitted, in accordance with the schedule in paragraph C-7.01, to the Contracting Officer within 14 days of the completion of survey and initial testing. The management summary shall describe survey and initial testing methods and the data yielded by those methods. Where survey data, initial testing data and other

sources of data are adequate, the Contractor shall evaluate cultural resources identified during survey activities in terms of eligibility for inclusion in the National Register of Historic Places. The evaluation shall be consistent with requirements in paragraph C-5.3.j. of this Scope of Work. Where inadequate data exist for such an evaluation, the Contractor shall recommend specific additional studies, as described in paragraph C-4.08 of this Scope of Work, necessary to obtain adequate data for such National Register evaluation. The management summary shall include project maps showing boundaries of discovered cultural resources relative to project rights-of-way. The management summary shall also contain recommendations, based on geomorphic and other data, concerning the need for deep cultural resources testing and the type, numbers and locations of needed deep test units.

b. Four (4) copies of the draft report will be submitted within 50 calendar days following receipt of notice to proceed.

c. The Government shall review the draft report and provide comments to the Contractor within 20 calendar days after receipt of the draft report.

d. An unbound original and 25 bound copies of the final report shall be submitted within 25 calendar days following the Contractor's receipt of the Government's comments on the draft report.

6.02. If the Government review exceeds 20 calendar days, the period of service of the purchase order shall be extended on a day-by-day basis equal to any additional time required by the Government for review.

6.03. The Contractor shall submit under separate cover 3 copies of appropriate 15' quadrangle maps (7.5' when available) and other site drawings which show exact boundaries of all cultural resources within the project area and their relationship to project features, and single copies of all forms, records and photographs described in paragraph 1.04.

6.04. The Contractor shall submit to the Contracting Officer completed National Register forms including photographs, maps, and drawings in accordance with the National Register Program if any sites inventoried during the survey are found to meet the criteria of eligibility for nomination and for determination of significance. The completed National Register forms are to be submitted with the final report.

6.05. At any time during the period of service of this contract, upon the written request of the Contracting Officer, the Contractor shall submit, within 30 calendar days, any portion or all field records described in paragraph 1.04 without additional cost to the Government.

6.06. When cultural resources are located during intensive survey activities, the Contractor shall supply the appropriate State Historic Preservation Office with completed site forms, survey report summary sheets, maps or other forms as appropriate. Blank forms may be obtained from the

State Historic Preservation Office. Copies of such completed forms and maps shall be submitted to the Contracting Officer within 30 calendar days of the end of fieldwork.

6.07. The Contractor shall prepare and submit with the final report, a site card for each identified resource or aggregate resource. These site cards do not replace state approved prehistoric, historic, or architectural forms or Contractor designed forms. This site card shall contain the following information, to the degrees permitted by the type of study authorized:

a. site number

b. site name

c. location: section, township, and UTM coordinates (for procedures in determining UTM coordinates refer to How to Complete National Register Forms, National Register Program, Volume 2.

d. county and state

e. quad maps

f. date of record

g. description of site

h. condition of site

i. test excavation results

j. typical artifacts

k. chronological position (if known)

l. relation to project

m. previous studies and present contract number

n. additional remarks

7. SCHEDULE.

7.01. The Contractor shall, unless delayed due to causes beyond his control and without his fault or negligence, complete all work and services under this contract within the following time limitations.

| <u>Activity</u> | <u>Due Date</u> (Beginning with acknowledged date of receipt of notice to proceed) |
|--|--|
| Begin Intensive Survey of the Tiptonville Levee Project, Lake County, Tennessee. | 5 calendar days |
| Submittal of Management Summary Letter | 30 calendar days |
| Submittal of Draft Report | 50 calendar days |
| Government Review of Draft Reports | 70 calendar days |
| Contractor's Submittal of Final Reports | 95 calendar days |

7.02. The Contractor shall make any required corrections after review by the Contracting Officer of the reports. In the event that any of the Government review periods are exceeded and upon request of the Contractor, the contract period will be extended on a calendar day for day basis. The Contracting Officer may defer Government review comments pending receipt of review comments from the State Historic Preservation Officer or other reviewing agencies. More than one series of draft report corrections may be required. Such extension shall be granted at no additional cost to the Government.

8. Method of Payment.

8.01. Estimates shall be made monthly of the amount of the work and services performed by the Contractor under this contract, such estimates to be prepared by the Contractor and accompanied by such supporting data as may be required by the Contracting Officer.

8.02. Upon satisfactory completion of work by the Contractor, in accordance with the provisions of this purchase order, and its acceptance by the Contracting Officer, the Contractor will be paid the amount of money indicated in Block 25 of the purchase order.

8.03. If the Contractor's work is found to be unsatisfactory and if it is determined that fault or negligence on the part of the Contractor or his employees has caused the unsatisfactory condition, the Contractor will be liable for all costs in connection with correcting the unsatisfactory work. The work may be performed by the Government forces or Contractor forces at the direction of the Contracting Officer. In any event, the Contractor will be held responsible for all costs required for correction of the unsatisfactory work, including payments for services, automotive expenses, equipment rental, supervision, and any other costs in connection therewith, where such unsatisfactory work as deemed by the Contracting Officer to be the result of carelessness, incompetent performance or negligence by the Contractor's employees. The Contractor will not be held liable for any work or type of work not covered by this purchase order.

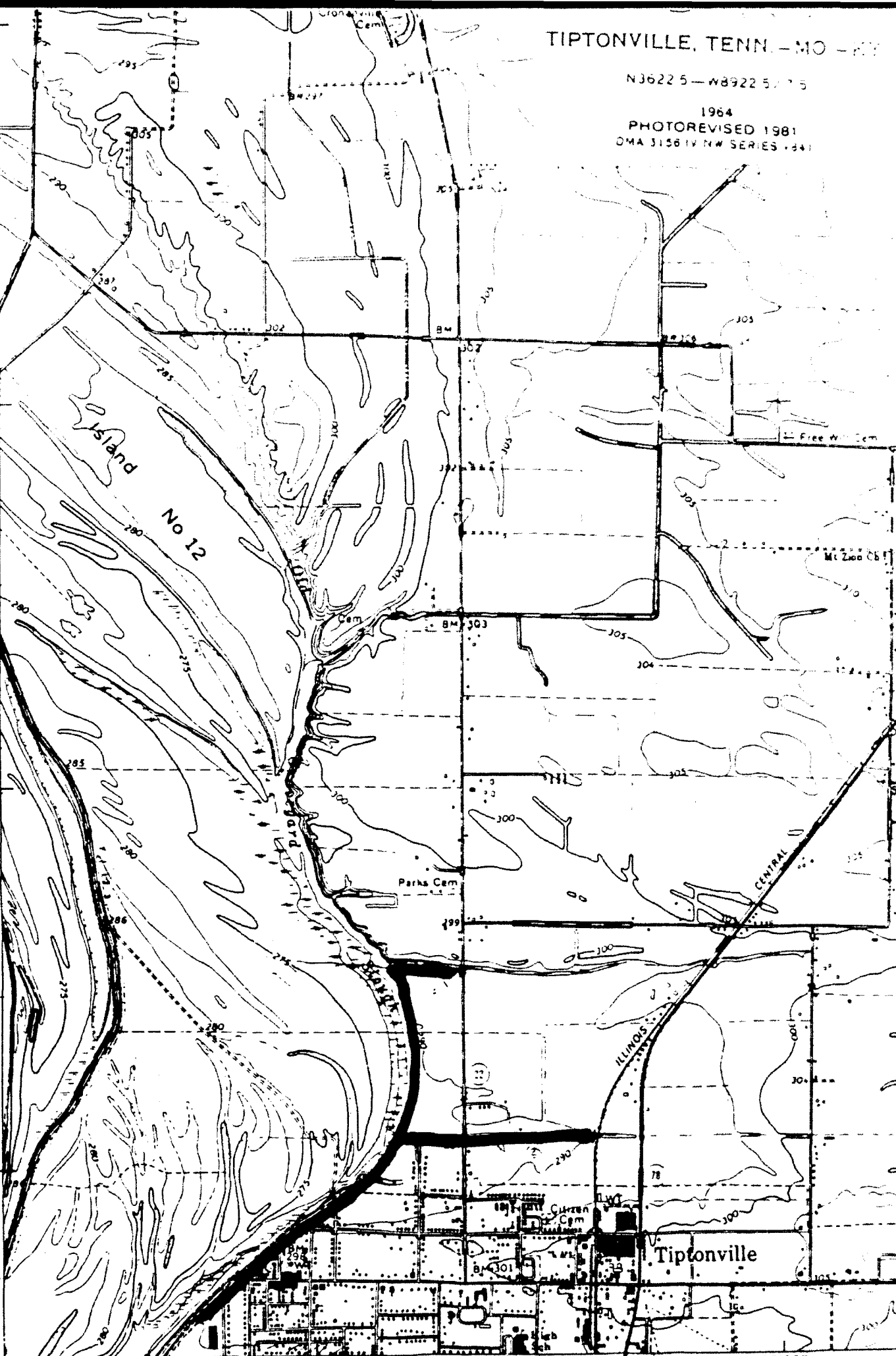
8.04. Prior to settlement upon termination of the contract, and as a condition precedent thereto, the Contractor shall execute and deliver to the Contracting Officer a release of all claims against the Government arising under or by virtue of the purchase order, other than such claims, if any, as may be specifically excepted by the Contractor from the operation of the release in stated amounts to be set forth therein.

TIPTONVILLE, TENN. - MO. - KY.

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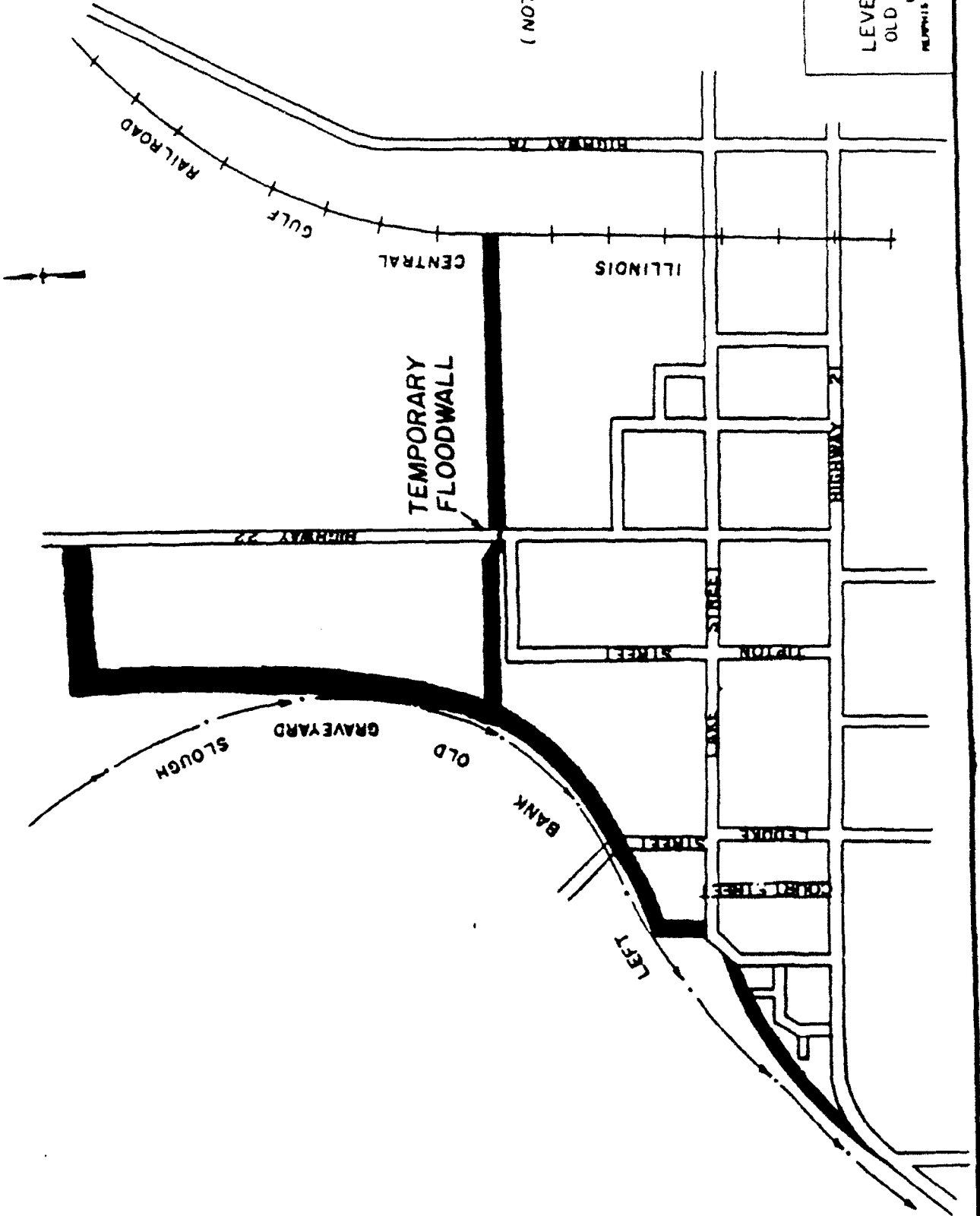
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TIPICVILLE, TN
AN ENGINEERING STUDY
LEVEE ALIGNMENT
OLD GRAVEYARD SLOUGH
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
MEMPHIS DISTRICT, MEMPHIS, TENNESSEE

(NOT TO SCALE)



MAP 2