APPENDIX H

CULTURAL RESOURCES

APPENDIX H

ARCHEOLOGICAL, ARCHITECTURAL, ARCHIVAL, AND GEOARCHEOLOGICAL INVESTIGATIONS OF THE PROPOSED DALLAS FLOODWAY EXTENSION PROJECT, DALLAS COUNTY, TEXAS

INTRODUCTION

The City of Dallas, in cooperation with the U.S. Army Corps of Engineers, Fort Worth District, is sponsoring a multi-year project to extend the Dallas Floodway to an area along the Trinity River flood plain between Corinth Street and Interstate 20/635 (Figures 1 and 2). The project will include the construction, renovation, and extension of levees, development of a chain of wetlands with central linear lakes, construction of a series of sumps to contain storm water runoff, and rechannelization of approximately 800 m (2,600 ft) of the Trinity River near its intersection with Interstate 45. Total flood control terrain is 1198 acres for the LPP, 547 of which will be subjected to direct impact. The calculations do not include the area of potential effect (APE). An aspect of the Environmental Impact Statement (EIS) for the project, as required under the National Environmental Policy Act of 1969, as amended (PL 91-190) , is coordination throughout the undertaking with interested parties, which includes the State Historic Preservation Officer. As a consequence, the action initiates a response through processes under the National Historic Preservation Act, as amended through 1992 (PL 102-575). Prior to producing the cultural resources appendix to the EIS, the Corps of Engineers conducted a Phase 1 survey through contractual means as an element of the planning process. The objectives of the project were to compile recorded data, field test (ground truth) and evaluate known and/or reported resources, as well as generate an initial predictive model for buried cultural deposits. The investigation was to report on four primary tasks, which included:

1. Following a literature review, all sites that would be impacted under the current design will be relocated and their condition assessed. The task will also include those sites in the area of potential effect (APE). The action at each site will be at a Phase 1 intensive survey level, although delineation of buried, submerged, or deep fill sites will not be possible. Acquisition of data necessary for preliminary evaluation of the resources would be ideal. Evaluation would be based on three classes: eligible, potentially eligible, and not eligible for inclusion in the *National Register of Historic Places (NRHP)*. Due to project constraints, it is anticipated that most occurrences will fall into the potentially eligible class and additional investigations will be necessary for definitive evaluation.

2. A brief, intensive review and assessment of primary historic records and archives, as well as secondary documentary sources is necessary to identify potential historic site loci, as well as for the preliminary evaluation of standing structures. A chain of title will be undertaken on selected parcels to evaluate the completeness and character of available data. These will include such archival sources as conveyance records, probate court records, and birth and death records, among others. Efforts will also be made to contact local historical societies and interested parties to assess and evaluate private archival records.

3. Provide a four-tier assessment of all structures or complexes (may include more than one structural component) in the currently designed project footprint, as well as identified historic structures in the APE. All structures will be placed in four categories: 1 - potentially eligible historic; 2 - not eligible historic; 3 - not historic (<43 years old); and, 4 - not historic (>43 years old, <50 years old). In addition, all structural components considered potentially eligible will be prioritized based upon their historic contribution to the development of Dallas.

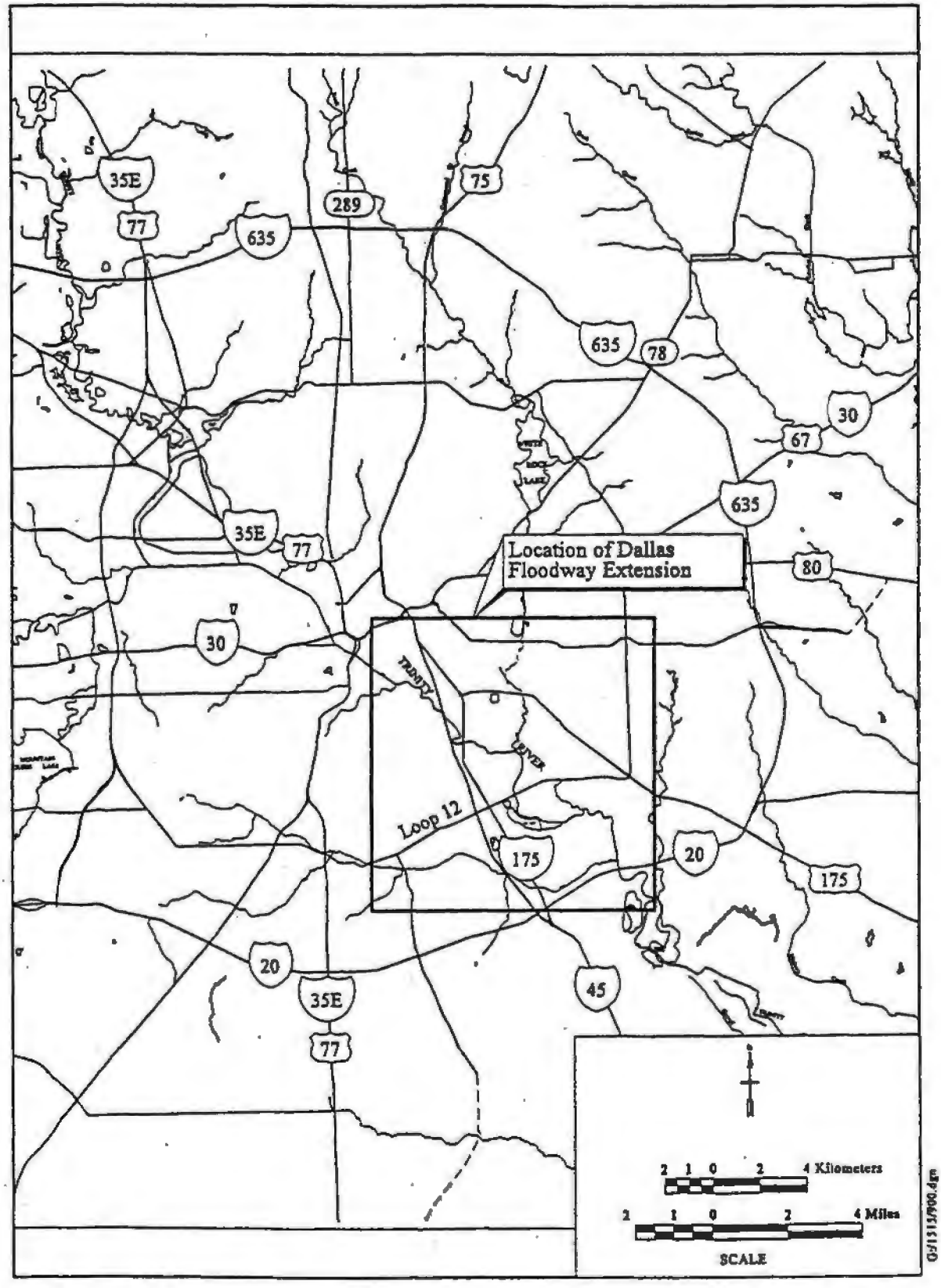

Figure 1. General location of the Dallas Floodway Extension project area within Dallas County.

4. Review all available geological and geomorphological data pertinent to the project area. Primary consideration should be given to core and boring data. A member of the team will be provided access to cores taken by the Corps of Engineers in other investigations. The objective of this task will be to gather enough data to generate a reliable model of buried topographic features or landforms and associated soil suites (paleosols). The surfaces and matrices of these relict and fossil deposits are believed to contain the remains of prehistoric occupations. Consideration should also be given to reconstructing the landscape prior to Euro-American modification, which will aid in the potential identification of buried features. An aspect of task 4 will be to take a series of cores in selected areas to aid in the reconstruction of paleolandscapes within the flood plain. Finally, a brief sampling program designed to evaluate the model will follow formulation. The results of the sampling program will be utilized to reformulate the model. An aspect of the final product will be a generalized estimate of the potential site density in the project terrain, which will include the environmental mitigation area between Loop 12 and Interstate 635.

The APE is defined as the area within the 100-year flood pool of the Trinity River between Corinth Street and Interstate 635, as noted. The Project Footprint area was defined as the area actually to be impacted by the current design, between the Martin Luther King Viaduct and Loop 12 (see Figure 2). This appendix is a synthesis of the technical report of finding and readers are encouraged to refer to the primary document, i.e., Cliff et.al 1997, for additional information.

This appendix is divided into eight sections. Section 2 presents the environmental setting of the project area, while Section 3 describes previous research in the project area and reviews the local prehistoric and historic chronology. Section 4 explains the research methods used during the investigation. Section 5 describes the reevaluation of the previously recorded archeological sites. Section 6 describes the archival research undertaken, while Section 7 presents the preliminary evaluations of the standing structures. Section 8 presents the results of the geoarcheological investigations and the model developed from this data. Finally, Section 9 presents the recommendations for the project. A list of references follows at the end.

ENVIRONMENTAL BACKGROUND

Dallas County is part of the Texan biotic province defined by Blair (1950) as an intermediate zone between the forests of the Austroriparian and Carolinian provinces and the grasslands of the Kansan, Balconian, and Tamaulipan provinces. Some species reach the limits of their range in the Texan province. Dallas County is part of the Blackland Prairie, one of several tall grass prairies present in this part of Texas. The vegetation in the Blackland Prairie is dominated by grasses, with woodlands being restricted to stream courses. Grasses expected to occur within this area include little bluestem, big bluestem, Indiangrass, hairgrama switchgrass, Florida paspalum, eastern gramagrass, sideoats grama, Texas needlegrass, Virginia wildrye, Torrey silver bluestem, meadow dropseed, vine-mesquite, and buffalograss (United States Department of Agriculture [USDA] 1980:88-90). The faunal community in this region has undergone changes due to the expansion of the Dallas-Fort Worth metroplex. However, the species of wildlife which previously inhabited the area include bobwhite, quail, pheasant, meadowlark, field sparrow, sage grouse, lark bunting, cottontail, red fox, antelope, and deer (USDA 1980:50).

The region has a warm, temperate, humid subtropical climate that is generally mild, with periods of extremely hot and cold weather being limited in duration. Yearly rainfall is fairly evenly distributed, with the maximum rainfall occurring in April and May and the minimum in August. Much of the rainfall occurs in the form of heavy thunderstorms, with the rapid runoff allowing only limited absorption of water by the soil. Snowfall is rare, with an average of less than 2.5 cm (1 in) falling per year. The snowfall is generally present for less than one week. The prevailing winds are southerly. Temperatures remain above 0° C (32° F) approximately 240 days each year (USDA 1964:72-73, 1969:51-52).

Dallas County is underlain by four geological formations—the Eagle Ford shale, the Austin chalk, the Taylor marl, and the Neylandville marl (Allen and Flanigan 1986). In addition, Pleistocene terrace deposits and Holocene alluvium are found along major streams and their tributaries. The APE is dominated by the Trinity River and two of its major tributaries—White Rock Creek to the northeast and Five Mile Creek to the west. Several smaller tributaries also join the Trinity River within the APE, including Kings Branch Creek, Little Cedar Creek, Cedar Creek, Honey Springs Branch, and Elam Creek.

Twenty-six soil map units are included within the APE, consisting of 16 upland map units, six flood plain map units, and four disturbed map units (USDA 1980). Given the rationale underlying the project, it is not surprising that the upland map units are limited to small areas within the APE and a small area along the edge of the APE, with the majority of the APE being composed of flood plain and disturbed soils. The upland map units and their role in archaeological research are discussed in detail elsewhere (Cliff et.al 1997).

CULTURAL SETTING

Previous Investigations

The history of archeological investigations within the Upper Trinity River drainage and the culture-historical framework for the area are aptly summarized in three, relatively recent, major reports concerning the archeology of the Upper Trinity River Basin (Peter and McGregor 1988; Prikryl 1990; and Yates and Fering 1986). Although the combined efforts of professional and avocational archeologists have resulted in the recording of numerous sites, it is apparent that much research remains to be done. As noted by McGregor (1988:27-29), much of the excavation efforts within the Upper Trinity River Basin have focused on reservoir development, especially along the Elm Fork (Brown and Lebo 1991; Crook and Harris 1957, 1958, 1961; Lebo 1995a, 1995b; Lebo and Brown 1990; Skinner and Baird 1985; Skinner et al. 1982) and the East Fork (Dawson and Sullivan 1973; Lorrain and Hoffrichter 1968; Lynott 1975; Ross 1966). Field school excavations by the University of Texas at Arlington at the Northlake site on Grapevine Creek were also reported in the mid-1970s (Morgan 1975). Finally, investigations at Joe Pool Lake (Jurney, Lebo, and Green 1988; Peter and McGregor 1988) and test excavations at the River Bend site, 41TR68 (Peter et al. 1987), have provided the initial assemblage data necessary for an understanding of the adaptations along the West Fork of the Trinity River.

Reservoir studies along the East Fork have included work at Lake Ray Hubbard and Lake Lavon, east and northeast of Dallas, respectively. Lake Lavon was surveyed in 1949 with test excavations being conducted at the Campbell Hole (41COL10) and Hogge Bridge (41COL1) sites (Stephenson 1949). Additional excavations conducted at the Hogge Bridge site resulted in the formal definition of the Wylie focus—a Late Prehistoric manifestation believed to be characterized by arrow points, flexed burials, large pits, and trade pottery from cultures to both the east and west (Stephenson 1952). More recently, excavations were carried out by Southern Methodist University (SMU) as a result of the planned enlargement of Lake Lavon (Dawson and Sullivan 1973; Lynott 1975). Lake Ray Hubbard was surveyed with the help of members of the Dallas Archeological Society (DAS) in 1963 (Harris and Suhm 1963). Subsequently, excavations were carried out at the Glen Hill (41RW4) and Upper Rockwall (41RW2) sites (Ross 1966), and the Lower Rockwall site (41RW1; Lorrain and Hoffrichter 1968). Much of this work was concentrated on excavations at sites with "Wylie focus pits" in an effort to better understand the function of these large features.

More recently, two major reservoir studies have been undertaken a short distance south of the project area—Richland-Chambers Reservoir and Joe Pool Lake. Richland-Chambers Reservoir was originally included in the proposed Tennessee Colony Reservoir, to be constructed on the Trinity River below Dallas (Chamberlin 1972; Richner 1982; Richner and Bagot 1978; Richner and Lee 1976, 1977), but this development was later canceled. Subsequently, dams were planned on both Richland and Tehuacana creeks, and a preliminary overview of the cultural resources was prepared (Burton and Connors 1979). Finally, the project was reduced to the Richland Creek impoundment and became known as the Richland-

Chambers Reservoir. Fieldwork for the project was undertaken by SMU, beginning with a survey of the project area in 1980, during which 911 sites were discovered. This was followed by a testing phase, during which 270 sites were evaluated (Archaeology Research Program [ARP] 1982; Raab, Moir, and McGregor 1980, 1981). Finally, mitigation of 15 prehistoric and 38 historic sites was undertaken during four field seasons from June 1982 to December 1984 (Bruseth and Martin, eds. 1987; Bruseth and Moir 1987; Jurney and Moir, eds. 1987; McGregor and Bruseth 1987; Moir and Jurney, eds. 1987).

Located along Mountain Creek in southwest Dallas County, Joe Pool Lake was originally known as Lakeview Reservoir. Fieldwork began in 1977 with a survey which recorded 42 sites within the project area, including Archaic, Late Prehistoric, and Historic sites (Skinner and Connors 1979). Test excavations were then undertaken at 15 prehistoric and eight historic sites (Ferring and Reese 1980; Raab, Bruseth, and McIntyre 1980; Raab et al. 1982). Finally, mitigation was conducted from 1984 to 1986 at six prehistoric and 13 historic sites (Jurney, Lebo, and Green 1988; Peter and McGregor 1988).

Recent large cultural resources management projects in Dallas County include the excavation of the Freedman's Cemetery and research for the Dallas Area Rapid Transit (DART) rail lines, the latter of which has included both archeological and architectural investigations (Adovasio 1992; ARP 1989, 1991; Dorward and Weston 1990; Dorward et al. 1990; Jurney 1987a, 1987b, 1987c, 1987d, 1987e, 1987f, 1988a, 1988b; Jurney and Moir 1987a, 1987b, 1987c; Jurney, McElhaney, and Weston 1990; Jurney, Moir, Dorward, and Weston 1990, 1991; Jurney, Moir, and Peter 1987; Jurney, Peter, and McElhaney 1987, 1988; Jurney, Peter, McElhaney, Payton, and Girard 1987; Moir, Dorward, and Winchell 1991; Moir and Jurney 1987a, 1987b, 1988; Moir, Peter, and Jurney 1987a, 1987b; Moir and Peter 1987; Myra L. Franks & Associates 1987a, 1987b, 1987c, 1988a, 1988b, 1988c, 1988d, 1988e, 1990, 1993; Myra L. Franks & Associates and ArchiTexas 1987, 1988; Myra L. Franks & Associates and Burson & Cox Architects, Inc., 1987a, 1987b, 1987c, 1987d; Skinner and the Staff of the Archeology Research Program 1996; Skinner et al. 1994; Skinner, Whorton, Trask, Scott, Caran, and Dillon 1996; Weston and Dorward 1990; Winchell and Dorward 1991).

In addition to these large projects, Dallas County has seen many smaller cultural resources investigations within recent years and several projects have occurred in or near the project area. During 1974 and 1975, North Texas State University (NTSU; now known as the University of North Texas) conducted an archeological reconnaissance within the flood plain of Five Mile Creek (McCormick 1976), including the southern end of the APE. Six sites were investigated during this project, two of which, sites 41DL80 (designated 41-DA-5 NTSU) and 41DL102 (designated 41-DA-6 NTSU), are in the APE. In 1981, Environment Consultants, Inc., undertook a survey for the Dallas Floodway Extension (Bennett et al. 1981). Although the exact location is difficult to discern from the maps provided in the report, the project area appears to have been slightly larger than the current APE (Figure 3). Twenty-two sites were investigated during this project, of which 13 (sites 41DL69, 41DL70, 41DL73, 41DL80, 41DL84, 41DL91, 41DL99, 41DL104, 41DL204, 41DL205, 41DL206, 41DL208, and 41DL220) are located within the present APE.

In 1990, AR Consultants undertook an archeological survey for the Rochester Park Levee, immediately adjacent to the project area (Figure 3). Two previously recorded sites, 41DL69 and 41DL70, were investigated. In addition, archival research was conducted for the project area and an oral history of the nearby Metzger Dairy was recorded (Skinner et al. 1990). Also in 1990, AR Consultants began a cultural resources survey of a proposed new levee and associated borrow pits at the Central Waste Water Treatment Plant (Skinner et al. 1991). Following this field work, AR Consultants continued to monitor the sites found at the Central Waste Water Treatment Plant and recorded three new sites (Skinner and Whorton 1995). As a result of this project two prehistoric and two historic sites were recorded. AR Consultants again visited the project area in 1993 for an archeological survey around Little Lemmon Lake (Skinner and Whorton 1993). Two sites (41DL350 and 41DL351) were located, both of which are within the APE. Finally, in 1996, AR Consultants undertook construction monitoring within the Dallas Floodway immediately north of the Project Footprint (Skinner, Whorton, and Trask 1996). Two historic sites, 41DL370 and 41DL371, were recorded during this project.

Prehistoric Chronological Framework

Although the chronological framework for the Upper Trinity River Basin is not well developed, the available data allow the delineation of a generalized chronology (Table 1). Investigations at Joe Pool Lake (Peter and McGregor 1988) have provided evidence for a refinement of the chronology for the Late Prehistoric period, but the overall regional applicability of the phases recognized at Joe Pool Lake remains to be demonstrated. Prikryl (1990) has presented a chronological sequence of six periods. Unfortunately, his sequence relies almost entirely on diagnostic artifacts from surface contexts and comparisons to dated contexts distant from the Upper Trinity River Basin. The generalized chronology presented here reflects the present state of knowledge as interpreted from the Joe Pool Lake investigations. A brief summary of the adaptations associated with these periods is presented below.

Table 1
Chronological Framework for the Upper Trinity River Basin
(after Peter and McGregor 1988)

CULTURAL STAGE	TIME PERIOD
Paleo-Indian	ca. 11,000 - 6,000 B.C.
Archaic	6,000 B.C. - A.D. 700
Late Prehistoric	A.D. 700 - A.D. 1600
Protohistoric	A.D. 1600 - A.D. 1800

The Paleo-Indian occupation of the Upper Trinity River Basin is known primarily through diagnostic projectile points from surface collections or from stratigraphically mixed contexts. The Field Ranch site (X41CO10) (Jensen 1968) along the upper Elm Fork is a primary example of typical site contexts. Clovis and Plainview points are commonly found along both Denton and Clear creeks in the Cross Timbers. Until recently, the Lewisville Lake site (Crook and Harris 1957, 1958, 1961) was the best known Paleo-Indian site within the region. While the original radiocarbon dates (ca. 37,000 B.P.) contributed to the significance of the site, more recent work (Stanford 1981) has resolved the controversy concerning the date of the occupation. It appears that the presence of naturally-occurring lignite as either a fuel in these hearths or an inadvertent inclusion contaminated the radiocarbon samples. Consequently, the usually accepted date of 12,500-10,000 B.P. for Clovis-period occupations is probably a reasonable estimate for the first human occupation of Northcentral Texas. Our knowledge of the settlement-subsistence strategies used by these early occupants is extremely limited. However, recent important excavations at the Aubrey site (41DN479), a well-preserved Clovis-period occupation in Denton County, has indicated that subsistence efforts did not focus on big game animals alone. Rather, the entire range of prairie and forest species was used (Ferring 1989). Whether this pattern of a more generalized foraging subsistence system is characteristic of Clovis adaptations in the Eastern Woodlands and the focus on now extinct, big game species is more characteristic of a Plains adaptation remains to be documented. Furthermore, the situation of the Aubrey site, buried about 7-8 m below surface in the flood plain of the Elm Fork (Ferring 1990), suggests that well-preserved Paleo-Indian sites in this area will only be found by penetrating more recent Holocene alluvium in modern flood plain situations.

Our knowledge of the Archaic period in the Upper Trinity River drainage is limited by a lack of data from major excavations. This is particularly true for the Early and Middle Archaic periods. Recent investigations along the West Fork (Peter and McGregor 1988; Yates and Ferring 1986) indicate that primary contexts for Early and Middle Archaic sites will probably be found deeply buried within flood plain alluvium. Artifacts from these periods are present on terrace surfaces, but they are frequently mixed with later materials. In fact, the initial treatment of the Archaic period in Northcentral Texas (Crook and Harris 1952, 1954), which defined the Carrollton and Elam foci, was based upon materials from such mixed terrace

contexts. Consequently, these time-space constructs are no longer recognized as being acceptable for this area of Texas (Peter and McGregor 1988; Prikryl 1990; Yates and Ferring 1986).

Recent investigations at Joe Pool Lake (Peter and McGregor 1988) and at Lake Ray Roberts indicate that remains of the Late Archaic period are characterized by assemblages apparently left by small bands of foraging hunters and gatherers who occupied a locality for a limited time period and then moved to another locality. These sites were apparently reoccupied numerous times on a seasonal basis. Deer and numerous small mammals were the primary food resources. The documentation of large pits associated with Late Archaic period sites in the Richland Creek and Chambers Creek drainages (Bruseth and Martin 1987) suggests that important sociopolitical changes may have been occurring during this time period. Unfortunately, the significance of these pits remains an enigma despite their excellent documentation.

The beginning of the Late Prehistoric period in the Upper Trinity River Basin is marked by the initial appearance of arrow points. A lower date of A.D. 700 for this period is based upon dated contexts for similar material in the Brazos River drainage to the west. Lynott (1977) suggests that the Late Prehistoric period may be divided into an early and a late phase. The early phase is characterized by sand- and grog-tempered ceramics, Scallom and Alba arrow points, and a continuation of the foraging subsistence system of the preceding Late Archaic period. The late phase reflects Southern Plains influences, with the appearance of Nocona Plain ceramics of the Henrietta focus, various unstemmed triangular points (e.g., Fresno, Harrell, Washita), and the Perdiz point. Evidence of horticulture and the procurement of bison also appears in sites of this period (Harris and Harris 1970; Morris and Morris 1970). Prikryl's (1990) recent assessment of the Late Prehistoric period largely follows that of Lynott (1977).

Recent investigations at the Cobb-Pool site at Joe Pool Lake (Peter and McGregor 1988) have resulted in a reformulation of the Late Prehistoric period. The Cobb-Pool site has yielded house structures, roasting pits, Alba points, grog-tempered ceramics, and charred corn cupules. Radiocarbon dates from several features indicate the site was occupied during the late twelfth or early thirteenth century. Present evidence suggests that the site does not represent an intrusive Caddoan occupation; consequently, a significant adaptive change appears to have occurred during a middle phase of the Late Prehistoric period. It is also likely that ceramics were not introduced to the region before this time. Whether the Cobb-Pool site merely represents a local experiment or reflects a regional adaptive change remains to be fully documented, but a small grouping of disturbed human remains recovered from the Harbor Pointe site (41DL369) suggests that various prehistoric groups in the Dallas County area may have been pursuing radically different adaptive strategies at this time. This site, located on Rowlett Creek (a tributary of the East Fork of the Trinity River) yielded remains of at least four individuals dated by radiocarbon dating of bone collagen to cal A.D. 1010 (1035) 1165. No pottery was recovered with these remains, although shell beads and a shell gorget, were present; and a carbon isotope ratio of -21.6% suggests that the group's diet was not high in maize (Cliff et al. 1996).

Historical documentation and archeological evidence are very sparse for the Protohistoric period in the Upper Trinity River Basin. Numerous historic groups, including Tonkawa, Wichita, Caddo, and Comanche, all are likely to have traversed the area. However, exact locations of their sites and detailed ethnohistoric data are almost nonexistent. Although European trade items (Sollberger 1953) appear on a limited number of sites, no protohistoric site has been thoroughly investigated and characterizations of the Native American adaptations during this time period are conjectural at best. A lack of documentary evidence, together with a lack of interest among ethnologists and archeologists, has contributed to this situation.

Historic Background

The first documented presence of Europeans in Northcentral Texas may have occurred in 1542, when the remnants of the de Soto expedition, led by Luis de Moscoso de Alvorado, entered modern Texas in an effort to find a land route to New Spain. Some researchers believe that the expedition crossed Northcentral Texas (Lebo and Brown 1990:61), although others place the route much farther to the east and south (Bruseth and Kenmotsu 1991; Chipman 1992; Hudson 1986; Schambach 1989; Weber 1992). A

consistent presence in the region did not occur until the early 1700s, when French traders from Louisiana began to move west along the Red River. The Spanish considered this French incursion to be a threat to the security of New Spain, and they responded by redoubling efforts to counterbalance the French influence with the Native Americans in East and Northcentral Texas. These efforts continued until 1763, when France ceded Louisiana to Spain under the Treaty of Paris. This reduced the perceived threat to the security of New Spain and resulted in a reduction in Spanish investment in eastern and northern Texas. More important from the Native American viewpoint, was the severe military defeat inflicted on the Spanish by Wichita and allied tribes at Spanish Fort on the Red River in 1758. It has been argued that this defeat put an end to Spanish military and missionary expansion to the north (Weddle 1964, 1965).

The first North Americans to settle in the region were primarily from Arkansas Territory. The first permanent settlement in the Dallas area was Bird's Fort in present-day Tarrant County, established in 1840. Also in 1840, John Neely Bryan reconnoitered the Dallas area to determine its suitability for a trading post. By the time Bryan returned in 1842, troops of the Republic of Texas had removed the Native American groups with whom he had intended trading. As a result, Bryan determined to found a settlement in the same area where downtown Dallas is today. To further this goal, Bryan invited the residents of Bird's Fort to join him in his new settlement. Five individuals—John and James Beeman, Captain Mabel Gilbert, Tom Keenan, and Isaac B. Webb—and their families decided to answer Bryan's call. Prior to this, in 1841, the Republic of Texas had contracted with the Texan Emigration Land Company to establish 600 families on a land grant encompassing portions of the modern Dallas, Denton, Cooke, Collin, Grayson, Ellis, and Wise counties. This land grant became known as the Peter's Colony. The majority of the Peter's Colony settlers held property north of Dallas. The Peter's Colony continued until 1852, when disputes about land title between the Texan Emigration Land Company and the settlers came to a head and some of the settlers rose up in arms to defend their title to the land they had settled. Dallas County was organized from Roberson County in 1846, with Dallas serving as the county seat (Works Progress Administration [WPA] 1992:38-50).

Texas was annexed by the United States in 1846 and some Dallas area residents joined the American army facing the Mexicans. The California gold rush in 1849 affected Dallas in two ways. First, it was near a major trail for the "49ers" that utilized a ford across the Trinity River about seven miles north of Dallas. Second, many Dallas area residents were struck with gold fever. Some, including John Neely, trekked to California, while others explored the nearby Wichita Mountains for gold (WPA 1992:46-47).

In 1855, another major colonizing venture was begun in the Dallas area when 200 French, Belgian, and Swiss immigrants arrived to found the utopian settlement of La Reunion, about three miles west of Dallas along the West Fork of the Trinity River. La Reunion was well funded, with an initial capital of $600,000, but the residents did not adapt well to frontier conditions and the colony never really prospered. Gradually the members of the colony drifted away, with many becoming residents of Dallas. The colony officially dissolved in 1867 (WPA 1992:286-290).

Although present, slavery did not loom as large in the economy of the Dallas area as it did farther to the east. In 1846, there were 45 slaves in Dallas County, a number that grew to 207 by 1850 (Prince 1993:10). In the 1860 census, Dallas County had a total population of 8,655 people, of whom 1,074 were slaves (Prince 1993:16). Most of the white residents of the county were southerners by birth and supported the pro-slavery side of the abolition question. As passions grew during the election of 1860, a fire swept through the Dallas business district, destroying all but one building. This was immediately assumed to be an abolitionist plot, resulting in the hanging of three African-Americans, the flogging of the remaining African-Americans in the county, and the whipping and banishment of two white preachers from Iowa (WPA 1992:53-54).

Following the presidential election of 1860, Texas, in common with the rest of the South, began to consider secession. In a February 23, 1861, referendum on the issue, Dallas County voted 741 to 237 in favor of secession. Many county residents joined Confederate military units and, after a 516 to 3 vote on the issue, Dallas County donated $5,000 in gold to the Confederate cause. The Dallas area provided foodstuffs to the Confederate army, and in 1862 a small arms and ammunition factory opened in Lancaster, south of Dallas. Although the fighting never reached Northcentral Texas, the region was gradually

impoverished by the war. Many of the commodities that were imported to the region became difficult to obtain and expensive, while the price of food had risen between two and four times its 1861 levels by September 1863. The *Dallas Herald* was forced to cease publication between September 30, 1863, and July 2, 1864, due to a lack of newsprint. Following Lee's surrender, the Federal Army occupied Texas and announced the emancipation of Texas' slaves on June 19, 1865 (WPA 1992:55-58).

Although the Dallas area suffered economically in the aftermath of the Civil War, it was not as badly affected as other areas of the former Confederacy. This greater economic vitality was fueled in part by streams of immigrants from the rest of the country, who were hoping to make a fresh start in the as yet unsettled West. Other elements in the economy included Dallas' location near one of the cattle trails to Kansas and its role as a center of the buffalo hide market. In 1872, the Dallas economy received a major boost when the Houston & Texas Central Railroad reached the city from the south, while, in 1873, the Texas & Pacific Railway provided important access to points east. After the arrival of the railroads, Dallas began to acquire many of the trappings of a major city, including the beginning of a water distribution system (1873), gas lighting (1874), a private telegraph company (1875), the telephone (1880), and electricity (1882) (WPA 1992: 60-70).

An early dream of the Dallas business community was to gain water transport along the Trinity River. The problems associated with this effort included the seasonal fluctuations in the level of the Trinity River, as well as the many snags and rafts that had to be removed. The first effort in this respect occurred in 1866, when the state legislature chartered the Trinity Slack Water Navigation Company to provide the improvements required for navigation from Galveston to Dallas. Under the terms of the charter, the company was to receive 5,000 acres of public land for every lock and dam completed; unfortunately, the company never started work on the project. In 1867, Captain J.M. McGarvey agreed to bring his *Job Boat No. 1* from Galveston to Dallas. The journey required seven months, with much of the time being spent removing obstructions from the river channel. Although Captain McGarvey claimed that the Upper Trinity was superior to both the upper Red River and the upper Mississippi River, his proposal to provide regular service to Dallas did not prove practical. Following his arrival, construction began in Dallas on the steamer *Sallie Haynes*, which made three trips down river before being sunk; there are no records, however, of the *Sallie Haynes* making the voyage all the way to Galveston.

After the railroads arrived in Dallas, interest in river navigation began to wane, although several small steamers continued to ply the Trinity, some of which are thought to have made the trip from Galveston to Dallas. In 1881, the state government was asked for $75,000 to remove obstructions from the river. During the 1890s interest in Trinity River navigation revived, and the Trinity River Navigation Company was formed in 1891. The company built two steamers, *Dallas* and *The Dallas*, and purchased the *H.A. Harvey, Jr.*, in New Orleans. The *Harvey* made its way up the river in 1893, arriving in Dallas on May 13. A dam was built at McCommas Bluff to provide sufficient water for the steamer, and it spent the next few years carrying cargo between Dallas and the dam. In 1898, the *Harvey* and the remains of *Dallas* were sold to a Galveston firm, and the *Harvey* made a four-month voyage downriver to Galveston.

In 1899, the U.S. Army Corps of Engineers submitted a plan to construct 37 locks and dams between Dallas and the Gulf of Mexico, permitting navigation of the Trinity River for eight months of each year. The plan went on to suggest that if a series of artesian wells were to be dug along the river channel, adding to the water flow, year-round navigation would be possible. In 1902, Congress appropriated $750,000 to improve the Trinity River, with another $500,000 being appropriated in 1904-1905. In addition, the citizens of Dallas contributed $66,000 for the construction of a dam at Parson's Slough, 26 miles below the city. Nine locks were built before the beginning of Wold War I. In 1916 the project was reevaluated, with a new estimate of another $13 million and 15 years being required to complete the project. Finally, in 1921, the Corps of Engineers recommended that any efforts to make the Trinity navigable above Liberty were impractical and should be abandoned.

In 1930, renewed interest in river navigation led to the creation of the Trinity River Canal Association, which in turn sponsored the creation of the Trinity Watershed Soil Conservation and Flood Control Association in 1936. These two organizations later merged to become the Trinity Improvement Authority (TIA). In 1955, the State of Texas created the Trinity River Authority (TRA). Lobbying on the part

of the TIA and TRA led to passage of the Trinity River Basin Bill in 1963; however, the bill merely authorized the project and contained no funding. Due to the huge backlog of river and harbor improvement projects approved by congress, no funding was ever appropriated for the project. The dream of a navigable Trinity River once again died in 1979, when the Corps of Engineers again determined that navigation of the Trinity River upstream of Liberty was not economically feasible (Jadrosich 1996; McElhaney 1995; Saunders 1991).

The history of Dallas is punctuated with several severe floods, with the floods of 1844, 1858, 1866, 1871, 1890, 1908, and 1913 being particularly memorable. Following the 1908 flood, the City of Dallas determined to try to reduce the impact of Trinity River flooding. This led to the construction of the Houston Street Viaduct, a 5,106-foot long concrete bridge constructed to ensure communication between Dallas and Oak Cliff even in the event of a major flood. A series of severe floods in the early 1920s led to renewed interest in flood control projects on the part of the local government. In 1926, the Dallas County Commissioners created the City and County of Dallas Levee Improvement District, which formulated the Ulrickson Plan for flood control. This plan called for the construction of levees, straightening and moving the river channel, additional viaducts, storm water drainage, and other improvements. Funds in excess of $15,000,000 dollars were provided for the project by the Levee Improvement District, The City and County of Dallas, and affected utilities and railroads. Among these improvements were the Cadiz Street Viaduct (completed in 1932), the Corinth Street Viaduct (completed in 1933), and the Lamar-McKinney Viaduct (completed in 1934) (Skinner, Whorton, and Trask 1996:18; WPA 1992:85, 94-96, 154-156).

By 1900, Dallas had become a major commercial and manufacturing center and, with a population of 42,638, was the third largest city in Texas. In 1908, a devastating flood occurred along the Trinity River, with the river cresting at 51.3 feet. The flood caused tremendous property loss, estimated at $2,500,000, and left 4,000 people homeless. The flood shut down the Dallas and Oak Cliff water systems and caused the collapse the Texas and Pacific Railroad trestle across the Trinity, as well as threatening several other bridges. During World War I, Dallas served as a training base for aviators, with Love Field and Camp Dick (at the State Fairground) being used for training. During the 1920s, the Ku Klux Klan became a factor in local politics, achieving particular importance between 1921 and 1924. Dallas' first radio station, WRR, was established in 1921, originally as a means of broadcasting emergency messages to the fire department. By 1927, WRR had become a commercial station. Beginning in 1930, Dallas began to be severely impacted by the Great Depression (WPA 1992:80-97, 266-267).

The economy of Dallas, and of the nation as a whole, did not begin to recover from the Depression until the mobilization for World War II began. After the war, the Dallas economy continued to grow along with the rest of the nation. Dallas' image was shattered by the Kennedy assassination on November 22, 1963, and it took many years to recover from this blow. A major economic downturn occurred in the late 1980s, when a drop in oil prices and the collapse of the real estate market dealt a severe blow to the Texas economy. This forced the Dallas region to diversify economically, investing heavily in the modern high-tech industries.

Project Specific Background

Although archeological surveys and archival research show that the Trinity River flood plain was occupied historically, little is known about settlement patterns, land use, social and economic development, historic structures, and the extent to which ethnic diversity may have existed in the area. Resources for historical data which pertain to Dallas County are widely available (see Graff et al. 1977), but data which pertain specifically to the APE are scarce and sometimes difficult to trace. Previous research and archeological surveys indicate that development in this area was limited, due in part to the frequent, unpredictable flooding of the river and its tributaries (Bennett et al. 1981:31, 38). Known historic structures and sites, however, suggest that the river played an important role in the activities which did occur.

Miller's Ferry, Cockrell's Bridge, and Lock and Dam No. 1 all indicate that fording and navigating the river were important considerations for earlier inhabitants (U.S. Army Corps of Engineers, Fort Worth District [USACE-FW] 1996; Yates and Ferring 1986:156). Ferries and bridges became venues for connecting settlements which developed on either side of the river—Dallas and Hord's Ridge (which later became

known as Oak Cliff). As the town of Dallas grew to become a mercantile center with county farmers producing marketable crops, such as cotton and wheat, inhabitants dreamed of establishing shipping connections between Dallas and Galveston via the Trinity River. However, in spite of attempts to channel the river and to maintain a navigable level of water, an established water route between Dallas and Galveston never materialized (Bennett et al. 1981:41; McElhaney 1995; Saunders 1991; WPA 1992:150-153). Since the area was not highly developed, it did not receive the same attention from early chroniclers as did the more prominent areas. The early history of the downtown district, for example, is well documented as it was the center of social, economic, and political activities and was the site that John Neely Bryan chose for the original town (American Illustrating Company 1908; A.C. Greene 1973, 1984:59-61).

METHODS

Task 1 - Archeological Evaluation

The records of the U.S. Army Corps of Engineers, Fort Worth District; the Texas Archeology Research Laboratory (TARL), the University of Texas at Austin; and numerous cultural resources reports were consulted to determine what sites had been recorded within the APE. Due to limited right-of-access within the APE, it was not possible to revisit all of the recorded sites, while in other cases access was gained to the property only with significant limitations. For example, neither the Sleepy Hollow County Club nor the Dallas County Joppa Wildlife Preserve would allow shovel testing, greatly reducing the potential for relocating and reevaluating the sites in these areas. In addition, several sites had originally been discovered in cutbanks along the Trinity River, 1.5 to 3 m below present ground surface; and for these sites, shovel testing was futile, while safe examination of the bank was precluded by the high river levels during the period of investigation. A further complication arose in the case of the sites recorded by Forrest Kirkland in the 1940s, since careful reading of the site forms suggested that the TARL site plottings may not be accurate. For example, although the mapped position of site 41DL84 is within the Sleepy Hollow County Club, the latitude and longitude provided by Forrest Kirkland place the site adjacent to a gravel pit/strip mine about 500 m north-northeast of the plotted location, while the site map appears to place it adjacent to the Southern Pacific railroad tracks, over a kilometer away from the plotted location.

On May 14-15, 1997, an attempt was made to relocate all of the sites in the Project Footprint to which the Corps of Engineers had obtained right-of-access. The two-person field crew was able to actually revisit only two of the 13 previously recorded sites that fell into this category. Of the sites which were not revisited, one had been destroyed, two could not be relocated, and eight were inaccessible due to high flood waters. Those sites which could be relocated were shovel tested and recorded at a level equivalent to a Phase 1 survey. Shovel tests consisted of 30-x-30-cm units dug in 20-cm arbitrary levels to a minimum of 40 cm below surface or to subsoil. A Survey Unit Level Form was completed for each shovel test at each site, describing, at a minimum, the soil color and textures and artifacts (if any) recovered from the unit. A pace-and-compass map was drawn to show the locations of the shovel tests and pertinent landform features, and a site update form was completed. Within the Project Footprint, black-and-white and color photographs were taken of all sites that could be relocated, and of the reported location of those that could not. A record was maintained of all photographs taken during the project, and a daily record of the field work was maintained by the field supervisor, describing the survey conditions and the results of the investigations.

Subsequently, beginning on May 26, 1997, attempts were made to revisit sites in the APE outside of the Project Footprint, where the Corps of Engineers had not obtained any right-of-access. The goal of this second phase of fieldwork was twofold: (1) to discover which sites have public access, and (2) to revisit and reevaluate those sites the field crew could reach. Shovel testing could not be undertaken on any of these sites, in the absence of explicit right-of-access. Of the 27 previously recorded sites in this category, the four sites in the Joppa Wildlife Preserve were revisited but could not reevaluated due to the inability to shovel test, one appeared to be within the McCommas Bluff Sanitary Landfill and is probably destroyed, and the remainder could not be reached at all. An attempt was also made to reach the McCommas Bluff Lock and Dam No. 1, constructed in 1904-1905 as the first in a proposed series of 37 locks and dams to allow navigation of the Trinity River (USACE-FW 1992:28). Unfortunately, this site could also not be reached due

to lack of access and high flood waters.

Task 2 - Archival Evaluation

The historical research conducted for this project focused on surveying sources for information that might shed light on the historical activities that occurred within the APE from the time that Dallas was settled in the 1840s. While some data were uncovered, the limited amount of available information demonstrates the need for more in-depth historical research on the Trinity River flood plain. Over 35 maps, located at the Dallas Public Library and at Fondren Science Library, Southern Methodist University, were consulted for data on settlement patterns, land use, land ownership, historic structures, and development (see Table 2: Cliff et. al 1997). Inquiries into record holdings were made at the Dallas County Historical Society, Preservation Dallas, and Black Dallas Remembered, Inc. Secondary (or published) material was consulted, as were earlier cultural resources survey reports and the 1903 and 1904 Dallas directories. Finally, deed research was conducted for several parcels of land.

Initial steps toward documenting the cultural and historical development in the APE focused primarily on a review of maps, which were consulted for information regarding historic structures, community development, land use, and land ownership. Unfortunately, the majority of the maps reviewed contained little or no information pertinent to the APE—exceptions included the 1900 *Sam Street's Map of Dallas County, Texas*, the 1920 Dallas County soil survey map, and a few others.

In conjunction with map research, the files at Preservation Dallas were consulted for information pertaining to neighborhood and community developments in or near the project area. Six developments which surround the APE were identified, including Cadillac Heights, Magna Vista (or Cedar View), South Central (or Joppa), Skyline Heights, Ervay Terrace Marlburg,and Colonial Hills (or Wendelkin/Driskell). Of these six districts, the first four (Cadillac Heights, Magna Vista/Cedar View, South Central/Joppa, and Skyline Heights) appear to be adjacent to or within the APE—located on the western side of the Trinity River.

The Colonial Hill Historic District is located adjacent to, but outside, the APE on the eastern side of the Trinity River, bound by Central Expressway and I-45/South Lamar on the east and west, and by Warren Avenue and Hatcher Street on the north and south, respectively. Data for each of these districts in the files at Preservation Dallas vary in detail. For example, no data pertinent to the project were found in the informational notebook for Cadillac Heights. For Magna Vista/Cedar View, Skyline, and South Central/Joppa, however, surveys completed by a neighborhood resident in 1994 at least provided a contact person from whom additional information could be obtained.

Secondary sources that were consulted provided general information for an historical overview of Dallas County and the role of the Trinity River in its development, but little data appeared to relate *directly* to the cultural and historic development of the APE, specifically. The final step in historical research for this project included deed/title and will/probate investigations for two properties, in order to evaluate the completeness and character of available records.

Task 3 - Architectural Evaluation

Addressing the architectural resources within the Dallas Floodway Extension Project Area involved two levels of identification and preliminary NRHP eligibility assessment. First, all architectural resources indicated by the COE Real Estate to be within the Project Footprint (the area that will be directly impacted by the construction of the levees or other components of the levee/flood control system) were assessed for their potential for being included in the NRHP. Second, all architectural resources within what has been defined by the Corps of Engineers as the APE—the 100-year flood pool—were identified. Any architectural resources in the APE that had been previously recommended as eligible for inclusion in the NRHP were assessed in the same manner as the architectural resources within the Project Footprint.

The assessment of the architectural resources included their categorization as:

1 — potentially eligible architectural resource or district (according to field evaluation, resource condition is at least fair, resource integrity is maintained to a reasonable degree, and the resource is likely to be more than 50 years old);
2 — architectural resource considered not eligible due to deteriorated condition or loss of integrity, or because it lacks sufficient significance;
3 — architectural resource that is not eligible because it is currently less than 50 years old, and will not be 50 years old at the time levee construction is scheduled to begin (estimated to be the year 2004);
4 — architectural resource or district that is not eligible because it is currently less than 50 years old, but one which will be 50 years old by the time levee construction is scheduled to begin and will thus need to be assessed when it becomes 50 years old.

The assessment of Category 1 buildings and structures was further refined by prioritizing these potentially eligible resources as:

1a — (highest priority) a resource or district that helps define the development of Dallas, including major municipal facilities, very important examples of local architectural or engineering design, and resources or districts associated with pivotal events or persons in Dallas history;
1b — a resource or district that is characteristic or typical of architectural or engineering styles important in the Dallas area and significant in the history of the city, or associated with important events or persons in the history of Dallas;
1c — a resource or district that is of minor architectural or engineering importance in the Dallas area, of minor significance to the history of the city, or associated with less important events or persons in the history of Dallas (but that will likely be considered eligible because of significance related to broader architectural or engineering styles, historical events, or persons); or
1d — (lowest priority) a resource or district considered to be significant primarily for its associations with architecture and engineering design, events, or persons of importance within broader historical themes (i.e., not Dallas-specific themes).

All buildings and structures within the Dallas Floodway Extension Project Area were given identification numbers. Those shown to lie within the Project Footprint (specifically in areas that will be directly impacted by the construction of the levee system or other flood control components) were assigned identification numbers prefixed with "A" (herein referred to as A-series resources). Those located within the APE but not to be directly impacted by levee construction were assigned identification numbers prefixed with "B" (herein referred to as B-series resources). The number of A-series resources thus identified was 49, and the number of B-series resources was 699 (one of which is a potential historic district that includes other B-series resources).

U.S. Geological Survey (USGS) 7.5-minute quadrangle sheets for the area, in conjunction with historic maps, archives and historic quadrangles, were examined to determine which resources had been constructed subsequent to the original date of the sheets (1958), indicating that the resources were less than approximately 40 years old. In general, assessment for NRHP eligibility should take place at least 50 years after a potential historic property has achieved significance in order to allow proper historical perspective for an accurate assessment. Thus, sufficient time has not yet passed—nor will it have passed by the time the Dallas Floodway Extension Project construction is scheduled to begin (estimated to be the year 2004)—for resources constructed after 1958 to be considered for inclusion in the NRHP. Only resources of exceptional significance should be considered prior to reaching 50 years of age, and there are no known resources of exceptional significance within either the Project Footprint or the APE.

It should be noted that most of the areas identified as ruins on Corps of Engineers map were not assigned identification numbers, since they do not include standing structures and are more appropriately considered as archeological rather than architectural resources. It should also be noted that no architectural resources between Loop 12 and Highway 635 were assigned identification numbers since no construction efforts are planned in that area which would potentially impact architectural resources. In the event actions are planned or undertaken that may impact architectural resources in the area between Loop 12 and Highway 635, inventory and assessment of the resources within the area should be undertaken.

The areas with A-series resources were first visited on May 12, 1997 to ascertain the variety of resource types, general conditions, accessibility, and to assess the resources. A large majority of these buildings and structures were in industrial areas and appeared to serve as storage and industrial activity facilities. Some were retail outlets. Buildings and structures that were estimated to be 50 years old or older were photographed. Unfortunately, several of the buildings and structures could not be observed because they were behind fenced areas, obscured by other buildings, or hidden by trees. A second trip to the area was made on June 9, 1997, to ensure that every effort to locate and assess all architectural resources was made, but this second visit contributed little to the previous resources assessment. Although additional efforts to see buildings and structures on private lands were made (by searching for higher ground, looking for open lines-of-sight around obstructions, and by driving or walking along public transportation routes), only in a few cases could the locations be seen clearly enough to make accurate assessment of the resources thereon.

Preliminary age determinations were made for each of the 699 B-series resources in the APE, based on information contained on the USGS quad sheets of the area. This data allowed a preliminary assessment (using the same five categories employed for the A-series resources) of many of these resources to be made. Several of the B-series resources were visited during field assessment of the A-series resources, but most will need additional assessment should the design or layout of the levee system or other flood control components be altered such that it would impact B-series resources. Field observations were concentrated in locations that contained resources previously recommended as eligible for inclusion in the NRHP and residential areas. While assessing the A-series resources, any nearby B-series resources that appeared to be more than 50 years of age were also assessed.

Task 4 - Geoarcheological Investigation

Field geological investigations in the Dallas Floodway Extension were confined to the Project Footprint and were conducted in May and June 1997. The purpose of the field investigation was to establish a geomorphic model that would compliment a predictive model for buried prehistoric resources in the APE. Prior to the field investigation, geological and geomorphological data pertinent to the APE were collected and reviewed. An initial field reconnaissance of the area was conducted to view geomorphic characteristics of the landscape, identify areas significantly altered by modern land use development, and assess the logistics of implementing the field plan. Access to the areas of impact were limited by logistics of right-of-entry in this mostly urbanized area. Also many areas are already significantly impacted by landfilling, dumps, industrial/commercial activity, and other development.

Primary consideration was given to core and boring data, especially newly acquired data collected with the Geoprobe. A Geoprobe is a hydraulically powered, percussion/probing machine designed specifically for use in environmental soil investigations. Soil probing techniques can be thought of as a direct push technique, where sampling tools and/or sensors are pushed into the ground without the use of drilling to remove soil or to make a path for the tool. The Geoprobe relies on a relatively small amount of static (vehicle) weight combined with percussion as the energy for advancement of a tool string.

Electrical conductivity (EC) logs were run to define zones of varying conductivity in the soil profile. Soil conductivity and earth resistivity (the inverse of conductivity) have long been used to classify soils. Higher EC values are representative of finer-grained sediments, such as silts or clays, while sands and gravels are characterized by distinctly lower electrical conductivities. Site specific core samples, either from discrete depths or a continuous core, were also collected to verify the lithology represented by EC values at a site. The electrical logs are correlated through the Project Footprint to show changes in thickness or elevation of soil units of interest. Seventeen EC traces were collected from the project area during the field investigation. The patterns of the EC curves were compared to discrete soil samples collected and described in the field for verification of soil properties.

The geomorphological map of the Dallas Floodway Extension APE and surrounding area was compiled from existing published geologic reports (Allen and Flannigan 1986; Ferring 1990), the published Soil Survey of Dallas County (USDA 1980), and data collected in this investigation. Stratigraphic contacts were drawn on overlays using parts of the Dallas, Hutchins, and Oak Cliff, TX USGS 7.5-minute topographic quadrangles as a base. The map units and their descriptions are modified from these sources to provide

appropriate detail to assess the likelihood of encountering cultural deposits within the delineated APE.

Discrete sediment samples were inspected and described using a modified USDA approach (Soil Survey Staff 1975, 1981). Sediment samples were described as to their position in a vertical profile, color, texture, soil structure, consistence, and other notable sedimentologic and pedologic properties. Descriptions were correlated with corresponding alluvial stratigraphic units in Ferring's (1990) model.

RESULTS

TASK 1 - ARCHEOLOGICAL EVALUATION

A total of 41 archaeological sites were previously recorded within or immediately adjacent to the APE (Tables 2 and 3, Figure 4). Fourteen of these fall within the Project Footprint, another 13 fall within the APE but are outside the Project Footprint, and the remaining seven are on the edge of, or only partially within, the APE. Another seven sites are recorded as being adjacent to, but outside of, the APE. On May 14-15, 1997, an attempt was made to revisit the 13 sites in the Project Footprint to which right-of-access had been obtained. Subsequently, attempts were made to revisit sites in the APE outside of the Project Footprint, although right-of-access had not been obtained and investigation was subsequently limited to surface inspection. However, a crew did return in August and inspected visit all previously identified archaeological sites in the Project Footprint.

Table 2
Location of Archeological Sites Within or Adjacent to the Dallas Floodway Extension APE

SITES WITHIN PROJECT FOOTPRINT	SITES WITHIN APE (100-YEAR FLOOD POOL)	SITES ON EDGE OF, OR PARTIALLY WITHIN, APE [1]	SITES ADJACENT TO, BUT OUTSIDE, APE
41DL69	41DL67	41DL71	41DL68
41DL70	41DL78	41DL72	41DL77
41DL84	41DL79	41DL73	41DL92
41DL104	41DL99	41DL76	41DL105
41DL220	41DL102	41DL80	41DL207
41DL317	41DL204	41DL91	*X41DL39*
41DL318	41DL205	41DL223	*X41DL40*
41DL319	41DL206		
41DL320	41DL208		
41DL337	41DL350		
41DL338	41DL351		
41DL355	*X41DL36* [2]		
41DL356	*X41DL38*		
41DL357			

Footnotes to Table 2

[1] APE = Area of Potential Effect.

[2] *X41DLxx* = Site number assigned by the Archeology Research Program of Southern Methodist University.

Table 3
Summary of Previously Recorded Archeological Sites within the Dallas Floodway Extension APE

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
41DL67	APE[1]	Late Prehistoric; scraper, flakes, "arrow-heads and bird points," no potsherds; found on "deep sand bed in the river bottom"; 150-x-150 yds; Dec. 1940.	Yes	Not investigated; will not be impacted as it is within Central Waste Water Treatment Plant; actually outside 100-year flood pool.	Not evaluated
41DL68	Adjacent to APE[1]	ALate Prehistoric; polished stone axe, two celts, two discoidals, large muller, many "arrowheads and bird points," no potsherds; sand-covered clay hills reaching down to edge of Trinity River bottoms; 500-x-300 yds; reported in Hanna (1940); site form dated Nov. 1940. Summarized in Skinner et al. (1978:Table 2); lithic scatter of an undetermined Late Prehistoric period; 460-x-460 m; on terrace along Honey Grove Spring; built over, poor potential for further work.	No	Not relocated.	Not evaluated
41DL69	Project Footprint	Late Prehistoric; many "arrowheads and more than one-hundred bird points," one steatite pipe, potsherds, scrapers, and flakes; on slight ridge at edge of Trinity River bottoms; 200-x-400 yds; Dec. 1940. Not relocated by ECI (Bennett et al. 1981:Appendix B); summarized in Table 2. The result of years of collection at the site were summarized by Bill Young (1988); burials reported.	Yes	Six ST's excavated; some prehistoric material remaining; area badly impacted by excavation of gravel pits.	Ineligible

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
41DL70	Project Footprint	Late Prehistoric; flakes, two potsherds, some shell; found in deep sand on flat land just above the overflow level; 100-x-400 yds; Dec. 1940. Not relocated by ECI (Bennett et al. 1981:Appendix B); summarized in Table 2.	Yes	Destroyed by construction of Rochester Park Levee.	Ineligible
41DL71	APE[1]	Late Prehistoric; arrowheads, blade cache, six almost complete pots, fragments of three effigy pots, flakes, burial, European battle axe?; sandy ridge at edge of river bottom; 200-x-400 yds; Dec. 23, 1940	No	Some areas of site may retain integrity; need Corps of Engineers to determine landowner and gain right-of-access.	Not evaluated
41DL72	APE[1]	Late Prehistoric, historic; arrowheads, "bird points," blades, flakes, one potsherd, one burial with no grave goods reported by farmer; historic farmstead for over 50 years; extensively collected by 1940; on hill, large spring in center of site; 300-x-400 yds; Dec. 29, 1940.	No	Elam Road blocked at Pemberton Hill Road; other access appears to be driveway; need Corps of Engineers to find landowner and gain right-of-access.	Not evaluated
41DL73	APE[1]	Late Prehistoric; "many arrowheads and bird points," blades, scrapers, metates, one notched axe, no potsherds; poor condition, artifacts found only in eroded areas; on extended sand bar in river bottom; 200-x-3,000 yds; Dec. 1940 Not relocated by ECI (Bennet et al. 1981:Appendix B); summarized in Table 2.	No	Elam Road blocked at Pemberton Hill Road; other access appears to be driveway; need Corps of Engineers to determine landowner and gain right-of-access.	Not evaluated

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
41DL76	APE[1]	Late Prehistoric; arrowheads, "bird points," mano, metate, broken bone gorget, flakes, potsherds, mussel shell; reported burial removed prior to 1940, associated potsherds, gorget; on two knolls at edge of river bottom; 400-x-800 yds; Dec. 1940. Reported destroyed by SMU field crew, 1978. Summarized by Skinner et al. (1978:Table 2); lithic scatter of an undetermined Late Prehistoric period; 360-x-740 m; on a terrace along Elam Creek; altered by quarrying with poor potential for further work.	No	Possible City of Dallas property; need Corps of Engineers to determine landowner and gain right-of-access.	Not evaluated
41DL77	Adjacent to APE[1]	Wood site; Late Prehistoric; arrowheads, scrapers, metate, flakes, potsherds; low, sand-covered hills at edge of river bottoms; on both sides of small drainage near mouth of Elam Creek; badly cut up by two gravel pits; 250-x-400 yds; Dec. 1940. Revisited by SMU field crew in 1978; site listed as "destroyed: borrowing in gravel pits." Summarized in Skinner et al. (1978:Table 2); lithic and ceramic scatter; undetermined Late Prehistoric period; 230-x-360 m; on terrace along Elam Creek; altered by quarrying, poor potential for further work.	No	In McCommas Bluff Park; not relocated, no shovel testing undertaken; site area heavily overgrown, no evidence of recent disturbances	Not evaluated

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
41DL78	APE[1]	Late Prehistoric; mussel shells, arrowheads, scraper, blades, flakes, few potsherds; found on deep, flat sand beds near the river bottoms; no disturbance noted; Dec. 1940. Summarized in Skinner et al. (1978:Table 2); lithic and ceramic scatter of an undetermined Late Prehistoric period; 140-x-140 m; found on a terrace of the Trinity River; reported as inundated with no potential for further work.	No	In Joppa Wildlife Preserve; not relocated; heavily overgrown, water in bottom of pit; 2-2.5 m high berm on north side.	Not evaluated
41DL79	APE[1]	Late Prehistoric; bird points, flakes; found on deep, flat sand beds at edge of river bottoms; no disturbance noted; Dec. 1940. Summarized in Skinner et al. (1978:Table 2); lithic scatter of an undetermined Late Prehistoric period; 140-x-180 m; found on a terrace of the Trinity River; reported as inundated with no potential for further work.	No	In Joppa Wildlife Preserve; area heavily overgrown, shovel testing not permitted; no significant ground-altering disturbances noted in site area; may be misplotted, site map shows it much closer to RR tracks.	Not evaluated
41DL80	APE[1]	Late Prehistoric; arrowheads, "bird points," scrapers, manos, flakes, potsherds; found on low, sandy loam ridges at edge of river and creek bottoms; 150-x-350 yds; no disturbance noted; Dec. 1940. Reported in McCormick (1976:14-15, Figures 4, 5, and 6); occupied in Archaic, Late Prehistoric, and Early Historic aboriginal periods based on artifacts from R.K. Harris collection; southern half of site severely damaged by I-635 construction.	No	Behind chainlink fence; need to have Corps of Engineers determine landowner, gain right-of-access.	Not evaluated

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
		Summarized in Skinner et al. (1978:Table 2); lithic and ceramic scatter of Early Archaic to Late Prehistoric II periods; found on a terrace of Five Mile Creek; disturbances include alteration by construction and quarrying; considered to have excellent potential for future work. Relocated by ECI (Bennet et al. 1981:Appendix B); flakes and a biface were collected; site disturbed by I-635, dirt roads, and an animal pen; site measured 60-x-120 m; summarized in Table 2. Visited by NTSU field crew, Sept. 1985; site form largely illegible, but multiple occupations present; considered of unknown eligibility for the NRHP; site has shrunk to 35-x-20 m.			
41DL84	Project Footprint	Late prehistoric; arrowheads, flakes; found on sand ridges at edge of river bottom; reported "most of site area has been dug over for sand and gravel"; 400-x-500 yds; Feb. 1941. Summarized in Skinner et al. (1978:Table 2); lithic scatter of an undetermined prehistoric period; 360-x-460 m; found on terrace of the Trinity River; altered by quarrying, fair potential for further work. Not relocated by ECI (Bennet et al. 1981:Appendix B); summarized in Table 2.	Yes	No prehistoric remains located; site may be misplotted or destroyed	Ineligible

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
41DL91	APE[1]	Late Prehistoric; blades, hand ax, flakes; located on sandy hills at edge of bottoms; site was "badly dug into by a gravel pit and part of it evidently extends into a heavy woods"; 100-x-100 yds; April 1941. Summarized in Skinner et al. (1978:Table 2); lithic and ceramic scatter of an undetermined Late Prehistoric period; 90-x-90 m; found on terrace of Trinity River; altered by quarrying, fair potential for further work. Not relocated by ECI (Bennet et al. 1981:Appendix B); summarized in Table 2.	No	Not relocated; need to have Corps of Engineers determine landowner and obtain right-of-access.	Not evaluated
41DL92	Adjacent to APE[1]	No site form. Summarized in Skinner et al. (1978:Table 2); lithic scatter of an undetermined prehistoric period; 90-x-550 m; on terrace along Trinity River; altered by quarrying, fair potential for further work. Reported on in Bennet et al. (1981); site not relocated.	No	In McCommas Bluff Park; site not relocated, no shovel testing undertaken; site area heavily overgrown, no evidence of recent disturbance.	Not evaluated
41DL99	APE[1]	Only summary index card available, no site form; small Archaic lithic scatter, few artifacts. Summarized in Skinner et al. (1978:Table 2); lithic scatter of an undetermined prehistoric period; no site size; found on a terrace of the Trinity River; altered by construction, poor potential for further work.	No	Not relocated; need to have Corps of Engineers determine landowner and gain right-of-access.	Not evaluated

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
		Not relocated by ECI (Bennet et al. 1981:Appendix B); summarized in Table 2.			
41DL102	APE[1]	Only summary index card available; fairly large site with some indication of depth; lithic scatter, dating Early Archaic to Late Prehistoric I. Reported in McCormick (1976:17, Figure 7); northern part of site destroyed by gravel mining; buried 3-4 ft below surface; predominantly Archaic, with some evidence of a Late Prehistoric occupation. Summarized in Skinner et al. (1978:Table 2); lithic scatter dating from Early Archaic to Late Prehistoric periods; found on a terrace of Five Mile Creek; altered by quarrying, good potential for further work.	No	Inside McCommas Bluff Sanitary Landfill; not revisited; probably destroyed.	Not evaluated
41DL104	Project Footprint	No site form available but summary index card is available; recorded by R.K. Harris, probably 1940s or 1950s; small, Archaic lithic scatter; reported destroyed by gravel operation. Summarized in Skinner et al. (1978:Table 2); lithic scatter of an undetermined Archaic period; no site size; found on terrace of Trinity River; altered by construction, fair potential for further work. Not relocated by ECI (Bennet et al. 1981:Appendix B); summarized in Table 2.	Yes	No prehistoric remains located; site may be misplotted or destroyed.	Ineligible

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
41DL105	Adjacent to APE[3]	No site form, summary information from TARL states just south of Elam Creek; very small camp, Archaic as far as can be determined; probably destroyed; TARL information is that this is Old Trinity City. Summarized in Skinner et al. (1978:Table 2); lithic scatter of an undetermined Archaic period; size unknown; on terrace of Trinity River; listed as totally destroyed, but fair potential for further work.	No	Not relocated; need to have Corps of Engineers determine landowner and obtain right-of-access.	Not evaluated
41DL204	APE[1]	Archaic; four points reported (Pedernales, Ellis, two Trinity), cobbles, flakes, possible end scraper; on gently sloping terrace; eroded; sandy red soil with small patches of gray sand; eroded; 150-x-150 m; May 1981. Located by ECI (Bennet et al. 1981:Appendix B); three complete points and two point fragments collected, all dart points; cobbles, flakes, and cores also present; site 150 m in diameter; disturbed by erosion; summarized in Table 1.	No	Elam Road blocked at Pemberton Hill Road; other access appears to be driveway; need Corps of Engineers to determine landowner and obtain right-of-access.	Not evaluated
41DL205	APE[1]	Unknown prehistoric; flakes, cobbles; gently sloping terrace; red/orange sandy loam; heavily eroded; 120-x-60 m; May 1981. Located by ECI (Bennet et al. 1981:Appendix B); flakes and cobble were observed; 120-x-60 m; summarized in Table 1.	No	Elam Road blocked at Pemberton Hill Road; other access appears to be driveway; need Corps of Engineers to determine landowner and obtain right-of-access.	Not evaluated

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
41DL206	APE[1]	Historic; ceramics, glass, cans, coal burner; on terrace at edge of gravel pit; light brown sandy loam; poor condition/eroded; 60-x-60 m; May 1981. Located by ECI (Bennet et al. 1981:Appendix B); late nineteenth-century historic; refined earthenware, bottle glass, milk glass, tin cans, scrap metal, and an oil stove burner observed; 45-x-30 m; summarized in Table 1.	No	Elam Road blocked at Pemberton Hill Road; other access appears to be driveway; need Corps of Engineers to determine landowner and obtain right-of-access.	Not evaluated
41DL207	Adjacent to APE[1]	Unknown prehistoric, historic; scrapers, cobbles, stoneware, earthenware, bottle glass, cartridge case; first terrace above Trinity River; 45-x-30 m; red/orange sandy loam; eroded; May 1981. Site reported in Bennet et al. (1981); chert and quartzite flakes, chert scraper, Alibates cobble, brown transfer-printed whiteware, stoneware, bottle glass observed at site.	No	Elam Road blocked at Pemberton Hill Road; other access appears to be driveway; need Corps of Engineers to determine landowner and obtain right-of-access.	Not evaluated
41DL208	APE[1]	Historic structure; board-and-batten house converted into a barn; first upland terrace above the Trinity River; red/orange sandy loam; clear glass also found; 42-x-24 m; May 1981. Located by ECI (Bennet et al. 1981:Appendix B); board-and-batten house converted to barn; log sills, 4-x-4" posts, metal slanted roof, small asphalt shingles (siding?); summarized in Table 1.	No	Elam Road blocked at Pemberton Hill Road; other access appears to be driveway; need Corps of Engineers to determine landowner and obtain right-of-access.	Not evaluated

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
41DL220	Project Footprint	Historic; apparent well, possible packed clay floor, no artifacts; river edge-flood plain; white clay; 2-x-2 m; May 1981. Located by ECI (Bennet et al. 1981:Appendix B); collapsed limestone well approx. 1 m in diameter; hackberry tree growing out of well; summarized in Table 1.	Yes	No historic remains located; site destroyed.	Ineligible
41DL223	APE[1]	Historic double pen house; moved to this location; in gravel pit; possibly associated with abandoned meat packing plant; no cultural material present; March 1982.	No	In McCommas Bluff Park; no evidence of structure observed, possibly removed.	Ineligible
41DL317	Project Footprint	Historic; Millers Crossing Bridge; consists of two concrete-filled, steel pillars; one pillar 45 ft tall, other 4 ft tall; remnants of second pillar along south bank of Trinity; Dec. 1990.	Yes	Only one column remains, protruding about one meter above water.	Ineligible
41DL318	Project Footprint	Unknown prehistoric; 10-m-long exposure in south bank of Trinity River; five bone fragments, mussel shell, burned rock; occupation thin, begins 1.5 m below surface; possibly associated with buried soil; erosion major threat to site; June 1991.	Yes	Three shell loci observed, one containing *in situ* materials; probably associated with nearby sites 41DL319 and 41DL357.	Eligible

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
41DL319	Project Footprint	Late Archaic (?); 12-m-long exposure in south bank of Trinity River; 1.5 m below surface, lens not more than 20 cm thick; one large bone fragment (possibly bison), mussel shell, burned rock, one biface fragment (possible Gary preform); possibly associated with buried soil; erosion major threat to site; June 1991.	Yes	New shell locus farther west; shell fragments at both loci in eroded context; no source for fragments observed; may be buried behind slumped soil; probably associated with nearby sites 41DL318 and 41DL357.	Eligible
41DL320	Project Footprint	Historic; old City of Dallas dump; three areas of site, two date ca. 1930s, other 1900s; being looted by bottle collectors; site impacted by road construction, erosion, excavation of storm drain outflow; Dec. 1990.	Yes	Condition apparently unchanged since 1990..	Eligible
41DL337	Project Footprint	Unknown prehistoric; exposed in Central Waste Water Treatment Plant effluent outflow channel; thin (10 cm or less) cultural deposit 3 m below surface; bison bone, mussel shell, one flake; impacted by construction of outflow channel; found at the contact between a black (10YR 2/1) clay and dark brown (10YR 3/3) clay; Sept. 1992.	Yes	No prehistoric remains located; apparently permanently submerged by outflow channel; probably associated with nearby sites 41DL338, 41DL355 and 41DL356.	Eligible
41DL338	Project Footprint	Unknown prehistoric; 3-m-long exposure in Central Waste Water Treatment Plant effluent outflow channel; approximately 3 m below surface; only mussel shell present; materials seem to be on soil contact; impacted by excavation of outflow channel; Sept. 1992.	Yes	No prehisatoric remains located; apparently permanently submerged by outflow channel; probably associated with nearby sites 41DL337, 41DL355 and 41DL356.	Eligible

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
41DL350	APE[1]	Unknown prehistoric; 50-m exposure along south bank of Trinity River; cultural deposits 2 m deep, 30-60 cm thick; bone fragments (including large mammal, possibly bison), mussel shell; bison bone found above buried A-horizon, other bone, shell found 30 cm below buried A-horizon; impacted by continued erosion of the Trinity River; Jan. 1993. Reported on in Skinner and Whorton 1993.	No	At time of visit, cutbanks too steep to examine safely with high water levels in the Trinity River.	Not evaluated
41DL351	APE[1]	Historic; Wulschlager Farm site; old truck farm; identified by fences, two standing residences, pump house, boat house, sheds; probably post-WW II; surrounded by recent trash; abandoned; Dec. 1993. Reported on in Skinner and Whorton 1993.	No	In Joppa Wildlife Preserve; some structures appear demolished since recorded; site crossed by pedestrian trail, no motor vehicles allowed; no sign of significant ground-altering activities.	Not evaluated
41DL355	Project Footprint	Unknown prehistoric; 11-m exposure in Central Waste Water Treatment Plant effluent outflow channel; thin (less than 25 cm) shell lens found 3 m below surface; mussel shell, bone fragments, burned rock; impacted by erosion, excavation of channel; Sept. 1993.	Yes	No prehistoric remains located; apparently permanently submerged by outflow channel; forms part of site complex with sites 41DL337, 41DL338 and 41DL356.	Eligible
41DL356	Project Footprint	Unknown prehistoric; 20-m long exposure in Central Waste Water Treatment Plant effluent outflow channel; two thin lenses separated by 50 cm, begin 3 m below surface; impacted by channel construction, erosion; Sept. 1993.	Yes	*In situ* shell deposits found ca. 160cmbs; additional shell observed underwater; probably associated with sites 41DL337, 41DL338 and 41DL355.	Eligible

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
41DL357	Project Footprint	Unknown prehistoric; 35-m exposure in bank of Trinity River; cultural deposits begin 1.5 to 2 m below surface; burned and unburned mussel shell, burned rock, biface; major impact erosion; Sept. 1993.	Yes	No *in situ* prehistoric remains located, although redeposited material is present below cutbank; probably associated with nearby sites 41DL318 and 41DL319, and may actually be 41DL319.	Eligible
X41DL36	APE[1]	Unknown prehistoric; SMU site number, no site form available; summarized in Skinner et al. (1978:Table2); lithic scatter; no site size; located on a terrace along an abandoned channel of Trinity River; site was totally destroyed and has no remaining research potential.	No	Behind chainlink fence; need Corps of Engineers to determine landowner and obtain right-of-access.	Not evaluated
X41DL38	APE[1]	Unknown prehistoric; SMU site number, no site form available; summarized in Skinner et al. (1978:Table 2); lithic scatter; no site size; located on a terrace along an abandoned channel of the Trinity River; site was totally destroyed and has no remaining research potential.	No	Behind chainlink fence; need Corps of Engineers to determine landowner and obtain right-of-access.	Not evaluated
X41DL39	Adjacent to APE[1]	Unknown prehistoric; SMU site number, no site form available; summarized in Skinner et al. (1978:Table 2); lithic scatter; unknown size; found on terrace along abandoned channel of Trinity River; major disturbance by natural causes, fair potential for further work.	No	Behind chainlink fence; need Corps of Engineers to determine landowner and obtain right-of-access.	Not evaluated

SITE NUMBER	LOCATION WITHIN PROJECT AREA	SITE DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
X41DL40[2]	Adjacent to APE[1]	Unknown prehistoric; SMU site number, no site form available; summarized in Skinner et al. (1978:Table 2); lithic scatter; unknown size; found on terrace along abandoned channel of Trinity River; major disturbance by natural causes, fair potential for further work.	No	Behind chainlink fence; need Corps of Engineers to determine landowner and obtain right-of-access.	Not evaluated

Footnotes to Table 3

[1] APE = Area of Potential Effect.

[2] *X41DLxx* = Site number assigned by the Archeology Research Program of Southern Methodist University.

Although the intent of the current study was to provide a Phase 1 evaluation of all known sites, several problems prevented that level of effort. First, neither the River View Country Club nor the Dallas County Parks and Recreation Department would allow shovel testing on their respective properties, negating the efforts to relocate sites 41DL78, 41DL79, 41DL104, 41DL350, and 41DL351. In addition, at the sites in the APE to which the Corps of Engineers did not yet obtain right-of-access, shovel testing was not undertaken without permission. Second, the high water level of the Trinity River during the period of the fieldwork made access to a number of the sites impossible, especially those deeply buried sites originally exposed in cutbanks. During the May 14-15 period of fieldwork, the Trinity had drowned all the deeply buried sites and, although water levels had fallen by May 27, they were still too high to allow safe examination of the steeper cutbanks, where artifact exposure is most likely to occur. The result was that shovel testing during the initial field phase could only be undertaken at two sites within the Project Footprint—41DL69 and 41DL70. The team returned and inspected all known site loci in the Project Footprint during a second phase in August. Descriptions of all of the recorded sites within the Project Footprint are presented in a separate technical report of findings (GMI 1997).

Unrecorded and Potential Archeological Sites

Ninety-five unrecorded and potential historic sites were identified by archival research within the Project Footprint and the APE. Six of these sites were discussed in the *Dallas Floodway Extension Study Area - Feasibility Draft: Cultural Resources Background* (USACE-FW 1992). These six sites include the wreck of the steamboat *Nellie*, Lock and Dam No. 1, the Corinth Street Bridge, the Joppa Slave Settlement, Millermore, and Trinity City (Table 4). Three of these sites (Millermore, Trinity City, and the Joppa Slave Settlement) appear to be located outside of the APE, while the Corinth Street Bridge is more properly recorded as an architectural, rather than an archeological, property. The remaining two sites are located within the Trinity River channel. The location of Lock and Dam No. 1 is shown on both the 1920 soil map and a 1941 county road map. Bennett et al. (1981:45-46) records information about the site received from Peggy Riddle (or Ribble—both spellings are used). At that time only about 40 percent of the structure remained and it was under water most of the time. The steamboat *Nellie* was wrecked during the 1908 Dallas flood. Richner and Bagot (1978:111) state that the *Nellie* was docked at the Commerce Street wharf when the flood waters swept it away. It stopped at the "Dallas-Oak Cliff Street trestle" and sank during salvage operations. The feasibility study (USACE-FW 1992:30) states that it may be located at the Forest Avenue (now Martin Luther King) Bridge. A potentially more likely location is near the modern Houston Street Viaduct, as this appears to be near the first obstruction shown on *Sam Street's Map of Dallas County* (1900).

Only two of the maps consulted during the archival portion of this project showed the location of individual homesteads—*Sam Street's Map of Dallas County* (1900) and the 1920 soils map for Dallas County. These two maps were the source of an additional 89 potential historic sites—66 from the soils map and 23 from Sam Street's map. The locations were then replotted onto the modern USGS 7.5' quad maps. The locations derived from the soils map are probably more accurate than those from Sam Street's map, as the soils map had more identifiable landmarks in common with modern maps and was drawn to a defined scale. With Sam Street's map, the accuracy with which landmarks such as roads and streams are drawn is questionable, while a scale had to be estimated from the presumed correspondence of these landmarks with those shown on the modern quadrangles.

TASK 2 - ARCHIVAL EVALUATIONS

A review of numerous maps suggests that, relative to the downtown area of Dallas, growth and development within the APE was slow. One of the earliest maps to depict the flood plain area is *Sam Street's Map of Dallas*, dated 1900. Structures and communities are plotted along with the names of landowners and homeowners. According to Street's map at least 10 rental houses, 10 owner-occupied houses, a store, a dairy, and a clubhouse (associated with the Rod and Gun Club Lake which is now Lemon Lake) existed in the project area. The map also plots an early African-

American freedmen's town known as Joppa (frequently pronounced "Joppy") of which little is known. According to information on file at Preservation Dallas and communication with Dr. Mamie McKnight, the founding director of Black Dallas Remembered, Inc., Joppa developed near Honey Springs sometime in the 1800s. Now bound by Linfield to the north, Loop 12 to the south, the Sleepy Hollow County Club to the east, and Carbondale Street to the west, some of the structures along the far east side of Joppa (near the streets of Yancy, Luzon, and the east side of Yukon Circle) fall within the APE (M. Greene 1996; Joppa/South Central n.d.; McKnight, personal communication, 1997). Sam Street's map notes that at least two of the houses in Joppa were owned and occupied by African-Americans. Though the names on the map are difficult to decipher, it appears that the last name of one owner is "West" and the other is "Norrel." An attempt was made to locate these names (and variations) in the 1903 and 1904 Dallas directories which were available at Dalla
names. Documents on file at Preservation Dallas indicate that in 1994, eight shotgun-style houses were still standing in Joppa. File information also noted that Lemon Lake was used by community residents for fishing purposes—a use which may have an historical precedent (M. Greene 1996; South Central [Joppa] n.d.).

The examination of historic maps also indicated that the downtown area of Dallas had begun to spread in a southeasterly direction by 1912. Streets, such as Edgar, Oplar, Pine, and Marburg appear east of Lamar Street on *Worley's Street Map of Dallas, Texas*, and on a 1915 city map by Koch and Fowler. By 1927, Forest Avenue is shown crossing the Trinity River in a map of Dallas by Ulrickson, and by 1933, the area of Cadillac Heights and street development along White Rock Creek (within the APE) appear in *H.A. Spencer's Street Guide and Index* (Koch and Fowler 1915; Spencer 1933; Ulrickson 1927; U.S. Geological Survey [USGS] 1920; Worley 1912).

Research at Preservation Dallas provided a limited amount of information on the development of communities within or near the APE. Six communities which surround or cover part of the APE were identified, including Cadillac Heights, Magna Vista (or Cedar View), South Central (or Joppa), Skyline Heights, Ervay Terrace/Marburg, and Colonial Hills (or Wendelkin/Driskell). Of these six, Cadillac Heights, Magna Vista/Cedar View, South Central/Joppa, and Skyline Heights all developed along the western side of the Trinity River and appear to include property that is within the boundaries of the APE. Ervay Terrace/Marburg and Colonial Hills (Wendelkin/Driskell) developed along the eastern side of Lamar Street, and do not appear to extend into the boundaries of the APE. The Colonial Hill Historic District is located adjacent to, but outside, the APE on the eastern side of the Trinity River, bounded by Central Expressway and I-45/South Lamar on the east and west, and by Warren Avenue and Hatcher Street on the north and south, respectively (map supplied by the U.S. Army Corps of Engineers).

Data for each of these communities, on file at Preservation Dallas, vary in detail. For example, no data pertinent to the project was found in the informational notebook for Cadillac Heights or for Colonial Hills (Wendelkin/Driskell). For Magna Vista/Cedar View, Skyline, South Central/Joppa, and Ervay Terrace/Marburg, surveys, completed by a neighborhood resident in 1994, provided a contact person from whom additional information could be solicited. The file on South Central/Joppa contained the most information (which was presented above). Data for Ervay Terrace/Marburg indicate that the neighborhood is transitional and comprised of an older population. The homes in the area are "ready for demolition" and are owned by absentee landlords (Cadillac Heights n.d.; Colonial Hills [Wendelkin/Driskell] n.d.; Ervay Terrace/Marburg n.d.; Magna Vista Cedar View n.d.; Skyline Heights n.d.; South Central [Joppa] n.d.).

Research into deed records and plat maps, located at the Dallas County Records Building, was conducted in an effort to establish the chain of property ownership for several tracts of land within the APE. Dallas County deed records extend back to 1846, however establishing a chain of title is made difficult by incomplete records and indexes, name changes, subdivisions of property, consolidations of property, and time limitations. Several parcels were initially chosen for deed research, but as the chain was interrupted by missing records, or as it became time consuming to try

Table 4

Summary of Unrecorded Archeological Sites within the Dallas Floodway Extension APE

SITE	LOCATION WITHIN PROJECT AREA	DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
Steamboat *Nellie*	Project Footprint	Richner and Bagot (1978:111) state the *Nellie* was docked at the Commerce Street wharf when the 1908 flood swept it away. It wedged against the "Dallas-Oak Cliff Street Trestle" and sank during salvage operations. It was never raised. A subsequent study (USACE-FW 1992:30) states that it may be located south of the Forest Avenue Bridge, now known as the Martin Luther King Blvd. Bridge. A more likely location may be near the modern Houston Street Viaduct, which appears to contain the first potential obstruction downstream of Commerce Street on Sam Street's 1900 map. Other possibilities are the Cadiz Street Viaduct and the Atchison, Topeka & Santa Fe Railroad bridge between the Corinth Street Viaduct and the Martin Luther King Blvd. Bridge—both of which were present in 1900.	Yes	Under water if present; will need a major effort to locate; may not be in Project Area.	Not evaluated
Lock and Dam No. 1	APE[1]	Shown on both the 1920 soil survey map and the 1941 Dallas county road map; Bennett (1981:45-46) states that Lock and Dam No. 1 was destroyed in the 1908 flood; approximately 40 percent of the structure remained in 1981, but this was under water most of the time.	No	Need the Corps of Engineers to determine landowner and obtain right-of-access; high water levels suggest that site is underwater.	Not evaluated

SITE	LOCATION WITHIN PROJECT AREA	DESCRIPTION	RIGHT-OF-ACCESS	RESULTS OF CURRENT INVESTIGATION	NRHP STATUS
Corinth Street Bridge	APE[1]	A prior feasibility study (USACE-FW 1992:30) describes this as a "unique concrete structure built during WPA days (early 1930s)"; structure was actually built with local funds for flood improvement and was completed in 1933 (WPA 1992:155).	Yes	Not an archeological site; will need recording as an architectural property if structure will be impacted.	Potentially Eligible
Joppa Slave Settlement	Adjacent to APE[1]	Described by Corps of Engineers feasibility study (USACE-FW 1992:29) as lying east of U.S. 75, south of Loop 12, and bordered on the east by Little Lemmon Lake; present archival research indicates that Joppa is actually located north of Loop 12 between the Sleepy Hollow Country Club and Carbondale Road, largely outside of the APE.	No	Not investigated, outside APE.	Not evaluated
Millermore	Adjacent to APE[1]	Site of early settler's home at 3110 Bonnie View Road; structure moved to Old City Park (USACE-FW 1992:29).	No	Location not investigated, outside APE.	Not evaluated
Trinity City	Adjacent to APE[1]	1849 settlement north of and including McCommas Bluff (USACE-FW 1992:28-29).	No	Location not investigated, outside APE.	Not evaluated

Footnotes to Table 5

[1] APE = Area of Potential Effect.

to pursue an indirect chain, another tract was chosen for deed research. Plat maps and deed records were examined for a parcel of land in the area south of Loop 12 and another parcel near the northern portion of the APE in the Cadillac Heights area. The results of the deed research are presented below.

Chain of Title—South of Loop 12

This property was chosen for investigation to provide information on activities in the southernmost portion of the APE. However, the deed chain was difficult to establish and time permitted the investigation of only a few transactions. This parcel is bound by the Trinity River to the east, Simpson Stuart to the south, and Lemmon Lake to the north. The legal description for this tract is Lot 2; Block 8002 (*Dallas County Tax Assessor* 1995b). Plat records indicate that the area was a part of the John B. Richards Survey and was assigned to Abstract No. 1192. The earliest transaction discovered for this property (for this particular research survey) dates only to January 17, 1964, when W.C. Jack Miller sold 1,322.161 acres of land for $1,554,000.00 to Trinity Industrial Properties (*Dallas County Deed Records* 64233:1285-1294). Earlier transactions associated with the John B. Richards Survey were lost at this point when the deed chain shows W.C. Jack Miller acquiring property that belonged to W. Jenkins on August 6, 1963 (*Dallas County Deed Records* 128:1580-1586). The property acquired by Miller from Jenkins included much of the land in the 1964 transaction, but the property associated with the John B. Richards Survey was not mentioned in the transaction between Miller and Jenkins (*Dallas County Deed Records* 128:1580-1586 and 5688:317-328). Thus, to determine ownership of this parcel prior to 1964 would have required that the property be traced from the original owner, a process that is often very time-consuming. Since properties generally subdivide over the course of time, going from original owner to current owner often requires that numerous deed transactions be examined in order to follow the trail of the correct parcel of land.

On February 2, 1965, the 1,322.161 acreage was transferred to Central States, Southeast and Southwest Areas Pension Fund (*Dallas County Deed Records* 65495:0722-0731). Central States, Southeast and Southwest Areas Pension Fund sold the property to Metropolitan Sand and Gravel Company for $1,400,000.00 on July 6, 1965 (*Dallas County Deed Records* 65613:2233-2242). Nearly four years later, on June 20, 1969, ownership was transferred from Metropolitan Sand and Gravel Company to Farrell Kahn, Joe Simpkins (President of Metropolitan Sand and Gravel Company), Morris A. Shenker and Morris A. Shenker, Jr. (*Dallas County Deed Records* 69126:1014-1022). On August 22, 1979, ownership was transferred to "Citizens Bk. University C" (*Dallas County Deed Records* 7914:0881). The property is now owned by the city of Dallas (*Dallas County Tax Assessor* 1995b).

Adjacent to, and west of this property is Tract 11, Lot 1, Block 8002, which is an eight-acre parcel currently owned by Fritz Wullschleger (*Dallas County Tax Assessor* 1995c). This property is associated with site 41DL351—a truck-farming operation reported on by Skinner and Whorton (1993:19-24). The tax assessment records spell the owner's last name as "Wullschleger," but Skinner and Whorton spell it as "Wulschleger."

Chain of Title—Lot 85

This parcel of land is associated with the house at 2838 Alex Street in Cadillac Heights. It was assigned Lot No. 85 and is a part of the Robert Sloan Survey, Abstract 1449, Block 6642 in an area known as McNabb's Meadow Garden of the R.C. Day Addition. The earliest known owner of this property was M. Hines who more than likely obtained it from one of the following three landowners—G.W. Givens in December of 1883 (*Dallas County Deed Records* 64:176); D.K. and A.C. King in January of 1885 (*Dallas County Deed Records* 82:52); or from the M.J. Dart trust in September of 1889 (*Dallas County Deed Records* 139:624). Unfortunately, there was insufficient time to review these three documents to determine previous ownership.

On December 4, 1894, Conrad Gansevoart et al. acquired the property from the trust of M. Hines (*Dallas County Deed Records* 187:257-258). Robert C. Day acquired the property on

November 11, 1895, when he purchased a portion of the Robert Sloan Survey for $1,000 (*Dallas County Deed Records* 197:433-434). Robert C. Day died in June of 1933. Since his wife, Susanah, had preceded him in death, his property was subdivided among his children and grandchildren (*Dallas County Deed Records* 1872:203-207). Two daughters, Rachel Childers and Frances M. Day, sold their parcels to Alexander McNabb on April 17, 1942 (*Dallas County Deed Records* 2354:115-116). At some point after this date, this parcel was acquired by the Department of Housing and Urban Development (HUD). To determine who sold this property to HUD would have required an examination of numerous deeds. *Dallas County Deed Indexes* list hundreds of HUD transactions. Even though the number of deeds to examine could have been narrowed down to some extent using property descriptions, there would still have been a large number to inspect. On September 4, 1973, U.C. Ford and his wife Lillian Ford acquired ownership of Lot 85 (*Dallas County Deed Records* 73219:0549).

The data from these two examples, though limited, suggests that by the 1960s, large parcels of land were being purchased for commercial enterprises (such as sand and gravel operations), and for government housing developments. The research for Lot 85 on Alex Street also serves as an example of earlier land inheritance patterns whereby large tracts of family land are quickly subdivided within one generation when children and grandchildren inherit from a parent or grandparent. This record also suggests that the Cadillac Heights area was being developed in the early 1940s when Alexander McNabb purchased the property which became known as McNabb's Meadow Garden. Property records for Dallas County indicate that the structure located on this property is a duplex built in 1949. The property address is listed as 2836 and includes 2838 (*Dallas County Tax Assessor* 1995a).

TASK 3 - ARCHITECTURAL EVALUATIONS

As noted previously, all buildings and structures within the Project Footprint, specifically in areas that will be directly impacted by the Dallas Floodway Extension, were assigned identification numbers prefixed with "A" (A-series resources); and those within the APE but not to be directly impacted by the project were assigned identification numbers prefixed with "B" (B-series resources). Forty-nine A-series resources were identified, and 699 B-series resources (one of which is a potential historic district that includes other B-series resources) were identified.

Three Category 1 (potentially eligible for inclusion in the NRHP) A-series resources were identified (Figure 5 and Table 5). Each of these buildings should be assessed by an architectural historian for their integrity, condition, and architectural/engineering significance. Each structure considered to be NRHP-eligible by the architectural historian will require further archival research to document its history and better determine its significance. The historic context of each resource will need to be established so that the significance of the resource can be effectively conveyed. Each NRHP-eligible resource will also need to be preserved or appropriately documented according to Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) standards (the level of documentation required should be determined through consultation with the Texas State Historic Preservation Officer).

In addition, there are 27 Category 2 A-series resources (see Table 6). These structures are either no longer standing or have been determined to lack enough significance to be considered eligible for inclusion in the NRHP. Sixteen structures were assessed as Category 3 (see Table 6). These resources have been determined (by field observation, by information on the USGS quadrangle sheet, or both) to be of insufficient age to be considered eligible for inclusion in the NRHP. Three building (Resource A-6, A-7 and A-12) have been assessed as a Category 4 A-series resource. They were built in 1949, 1950 and 1954, respectively (*Dallas County Tax Assessor* 1995a), and will require further assessment when it becomes 50 years old. The assessment of this resource should include research into its role in the development and history of the Cadillac Heights community, in which they are located. Further research and assessment of Category 4 resources will be a necessary goal.

Table 5
Assessment of Architectural Resources Within the Dallas Floodway Extension Project Footprint

IDENTIFICATION NUMBER	CATEGORY	MAP REFERENCE (USGS QUAD SHEET)	RECOMMENDATIONS FOR FURTHER WORK[2]	COMMENTS
A-1	2	Oak Cliff (1958, photorevised 1981)	3	structure no longer standing, not an architectural resource
A-2	2	Oak Cliff (1958, photorevised 1981)	3	structure no longer standing, not an architectural resource
A-3	2	Oak Cliff (1958, photorevised 1981)	3	structure no longer standing, not an architectural resource
A-4	2	Oak Cliff (1958, photorevised 1981)	3	structure no longer standing, not an architectural resource
A-5	2	Oak Cliff (1958, photorevised 1981)	3	structure no longer standing, not an architectural resource
A-6	4	Oak Cliff (1958, photorevised 1981)	1, 2	residence; not shown on quad sheet; visited on May 12, 1997, and photographed; the several structures along Alex Street are small vernacular-style residences, frame construction; building A-6 is in good condition; Dallas County tax records indicate A-6 built in 1949
A-7	4	Oak Cliff (1958, photorevised 1981)	1, 2	industrial building; shown on quad sheet as pre-1958 structure; visited on May 12, 1997, photographed; part of Dallas City Packing complex
A-8	3	Oak Cliff (1958, photorevised 1981)	1, 2	industrial building; shown on quad sheet as pre-1958 structure; visited nearby structures on May 12, 1997, but could not see this one; probably part of Dallas City Packing complex
A-9	1c	Oak Cliff (1958, photorevised 1981)	1, 2	industrial building; shown on quad sheet as pre-1958 structure; visited on May 12, 1997, photographed; part of Dallas City Packing complex

IDENTIFICATION NUMBER	CATEGORY	MAP REFERENCE (USGS QUAD SHEET)	RECOMMENDATIONS FOR FURTHER WORK[2]	COMMENTS
A-10	2	Oak Cliff (1958, photorevised 1981)	3	noted to be a ruin on the Corps of Engineers project map; not an architectural resource
A-11	2	Oak Cliff (1958, photorevised 1981)	3	shown on the quad sheet as post-1958 structure
A-12	4	Oak Cliff (1958, photorevised 1981)	3	shown on the quad sheet as post-1958 structure
A-13	3	Oak Cliff (1958, photorevised 1981)	3	shown on the quad sheet; post-1958 structure
A-14	3	Oak Cliff (1958, photorevised 1981)	3	structure not shown on the quad sheet, but area is shaded as post-1958 development; visited on June 9, 1997, resource is a recent metal-sided industrial building
A-15				number not assigned
A-16	1d	Oak Cliff (1958, photorevised 1981)	1, 2	a pre-1958 structure is shown on the quad in this general area, but it is not clearly A-16; visited on May 12, 1997, building appears to be a barn but could not get very close; photographed
A-17	2	Dallas (1958, photorevised 1981)	3	structure not shown on the quad sheet; visited June 9, 1997 structure is a simple, covered storage area
A-18	2	Dallas (1958, photorevised 1981)	3	very small structure, not shown on quad sheet; no access to structure (which is on private property, on land probably owned by Faubion Associates, Inc.) so assessment could not be made; could not see structure because of vegetation and boundary wall
A-19	2	Dallas (1958, photorevised 1981)	3	very small structure, not shown on quad sheet; no access to structure (which is on private property, on land probably owned by Faubion Associates, Inc.) so assessment could not be made; could not see structure because of vegetation and boundary wall

IDENTIFICATION NUMBER	CATEGORY	MAP REFERENCE (USGS QUAD SHEET)	RECOMMENDATIONS FOR FURTHER WORK[2]	COMMENTS
A-20	3	Dallas (1958, photorevised 1981)	3	shown on quad sheet as post-1958 structure
A-21	2	Dallas (1958, photorevised 1981)	3	structure not shown on the quad sheet; no access to structure (which is on private property) so assessment could not be made; could not see structure because of sheet-metal fences, buildings, and vegetation
A-22	2	Dallas (1958, photorevised 1981)	3	structure not shown on the quad sheet; no access to structure (which is on private property) so assessment could not be made; could not see structure because of sheet-metal fences, buildings, and vegetation
A-23	2	Dallas (1958, photorevised 1981)	3	structure not shown on the quad sheet; no access to structure (which is on private property) so assessment could not be made; could not see structure because of sheet-metal fences, buildings, and vegetation
A-24	2	Dallas (1958, photorevised 1981)	3	noted on Corps of Engineers project map to be a ruin; no longer an architectural resource
A-25	2	Dallas (1958, photorevised 1981)	3	noted on Corps of Engineers project map to be a ruin; no longer an architectural resource
A-26	3	Dallas (1958, photorevised 1981)	3	structure is in an area of post-1958 development
A-27	3	Dallas (1958, photorevised 1981)	3	structure is in an area of post-1958 development; probably part of the old Metzger diary
A-28	2	Dallas (1958, photorevised 1981)	3	structure no longer standing, may have been demolished or removed

IDENTIFICATION NUMBER	CATEGORY	MAP REFERENCE (USGS QUAD SHEET)	RECOMMENDATIONS FOR FURTHER WORK[2]	COMMENTS
A-29	2	Dallas (1958, photorevised 1981)	3	structure not shown on the quad sheet; no access to structure (which is on private property; probably owned by P&H Transportation, Inc.) so assessment could not be made; could not see structure because of sheet-metal fences, buildings, and vegetation
A-30	2	Dallas (1958, photorevised 1981)	3	structure not shown on the quad sheet; no access to structure (which is on private property; probably owned by P&H Transportation, Inc.) so assessment could not be made; could not see structure because of sheet-metal fences, buildings, and vegetation
A-31	2	Dallas (1958, photorevised 1981)	3	structure not shown on the quad sheet; no access to structure (which is on private property; probably owned by P&H Transportation, Inc.) so assessment could not be made; could not see structure because of sheet-metal fences, buildings, and vegetation
A-32	2	Dallas (1958, photorevised 1981)	3	structure not shown on the quad sheet; no access to structure (which is on private property; probably owned by P&H Transportation, Inc.) so assessment could not be made; could not see structure because of sheet-metal fences, buildings, and vegetation
A-33	2	Dallas (1958, photorevised 1981)	3	structure not shown on the quad sheet; no access to structure (which is on private property; probably owned by P&H Transportation, Inc.) so assessment could not be made; could not see structure because of sheet-metal fences, buildings, and vegetation

IDENTIFICATION NUMBER	CATEGORY	MAP REFERENCE (USGS QUAD SHEET)	RECOMMENDATIONS FOR FURTHER WORK[2]	COMMENTS
A-34	2	Dallas (1958, photorevised 1981)	3	structure shown on the quad sheet as pre-1958; visited on May 12, 1997; building is large undistinguished metal sided storage/industrial building
A-35	3	Dallas (1958, photorevised 1981)	3	structure shown on the quad sheet as post-1958
A-36	1c	Dallas (1958, photorevised 1981)	1, 2	probably one of two structures shown on the quad sheet in this area; this building appears to be more than 50 years old; photographed on May 12, 1997; clock on front of building exterior has "White Bottom Socks" in an arch above the face
A-37	2	Dallas (1958, photorevised 1981)	3	structure probably one of two pre-1958 structures shown on the quad sheet in this area; visited on May 12, 1997—retail store, not significant
A-38	2	Dallas (1958, photorevised 1981)	3	structure probably not one of the two pre-1958 structures shown on the quad sheet in this area (see A-36 and A-37); visited on May 12, 1997—vacant retail store, not significant
A-39	2	Dallas (1958, photorevised 1981)	3	structure not shown on the quad sheet; no access to structure (which is on private property) so assessment could not be made; visited area on June 9, 1997, could see only roof jacks (probably large industrial-use vents) and the ridge of a hip or gable roof of a one-story structure; building nearly obscured by heavy vegetation and automobile bodies
A-40	2	Hutchins (1958, photorevised 1968 and 1973)	3	not shown on the quad sheet; no structure currently exists at this location

IDENTIFICATION NUMBER	CATEGORY	MAP REFERENCE (USGS QUAD SHEET)	RECOMMENDATIONS FOR FURTHER WORK[2]	COMMENTS
A-41	2	Hutchins (1958, photorevised 1968 and 1973)	3	not shown on the quad sheet; no structure currently exists at this location
A-42	2	Hutchins (1958, photorevised 1968 and 1973)	3	not shown on the quad sheet; no structure currently exists at this location
A-43	2	Hutchins (1958, photorevised 1968 and 1973)	3	not shown on the quad sheet; no structure currently exists at this location
A-44	2	Hutchins (1958, photorevised 1968 and 1973)	3	not shown on the quad sheet; no structure currently exists at this location
A-45	3	Hutchins (1958, photorevised 1968 and 1973)	3	metal garage for golf cart storage for the country club
A-46	2	Dallas (1958, photorevised 1981)	3	labeled as a tank on the Corps of Engineers project map; does not appear on the quad sheet; in Sump Lamar 2
A-47	2	Oak Cliff (1958, photorevised 1981)	3	structure not shown on the quad sheet; in Sump Lamar 4; no access to structure (which is on private property) so assessment could not be made; could not see structure because of sheet-metal fences, buildings, and vegetation
A-48	3	Dallas (1958, photorevised 1981)	3	shown on the quad sheet as post-1958 structure
A-49	2	Dallas (1958, photorevised 1981)	3	structure is roof for covered parking or storage area
A-50	3	Oak Cliff (1958, photorevised 1981)	3	shown on the quad sheet as post-1958 structure

Footnotes to Table 6

[1] 1 — potentially eligible
1a — resource of great importance in Dallas history;
1b — resource of moderate importance in Dallas history;
1c — resource of minor importance in Dallas history;
1d — resource whose significance is not based on its role in Dallas history;
2 — not considered eligible;
3 — currently not 50 years old and will not be 50 years old at the time the project is expected to begin (estimated at 2004);
4 — currently less than 50 years old, but is potentially eligible and will be at least 50 years old before the project is expected to begin (estimated at 2004);

[2] 1 — archival research needed for age determination;
2 — needs assessment by architectural historian for NRHP eligibility;
3 — no further work considered necessary at this time;
4 — gain access to property for preliminary assessment.

As mentioned above, there were 699 B-series resources identified on the Dallas Floodway Extension Project Area maps. A preliminary age determination and assessment (using the same five categories employed for the A-series resources) was made based on information contained on USGS quad sheets of the area (Table 6). Although several of the B-series resources were visited, most were not and will require additional assessment should the design or layout of the project be altered such that it would impact the B-series resources (Table 7). Any resources determined to be Category 1 will need to be assessed by an architectural historian. If the architectural historian determines that the resource is NRHP-eligible, an historic context for the resource will need to be established so that the significance of the resource can be effectively conveyed. Each NRHP-eligible resource will also need to be preserved or appropriately documented according to HABS/HAER standards.

Two resources in the APE that have previously been noted to warrant consideration for inclusion in the NRHP are included in the list of B-series resources. These are the Corinth Street Viaduct and the community of Joppa (also called the Joppa Slave Settlement). The Corinth Street Viaduct, or Bridge (Resource B-268), is located at the far northwestern extent of the Dallas Floodway Extension Project Area. The structure was completed in 1933 at a cost of $745,500 (WPA 1992:155). It has previously been recommended for inclusion on the NRHP by the Corps of Engineers (USACE-FW 1992:30). The community of Joppa (Resource B-727) is one of three freedmen's communities still extant in the Dallas area. African-Americans began settling there as early as the mid-1800s, and a few of the early shotgun-style houses are still standing, although the majority of the more than 250 residences now in the community were constructed during the 1940s (M. Greene 1996:n.p.; South Central/Joppa n.d.). One of the early shotgun houses is only about 60 m outside the APE, on the corner of Luzon and Dutch Harbor.

Joppa is bound by Linfield Road on the north, Loop 12 on the south, Carbondale Street on the west, and the Sleepy Hollow Country Club on the east. The area defined by these boundaries is considered potentially eligible for inclusion on the NRHP as a National Historic District. Few of the architectural resources therein would be considered eligible for inclusion in the NRHP as individual historic properties, but many would be eligible as contributing elements to an historic district. Twenty-seven buildings and structures within the Dallas Floodway Extension Project APE (Resources B-681 through B-691 and B-708 through B-723) are in the community of Joppa as defined above. Should it be determined that the construction of the Dallas Floodway Extension will directly or indirectly impact the Corinth Street Viaduct or elements of the Joppa community, measures will have to be taken to protect these potential historic properties (as well as vacant lots in Joppa, which may contain historic-era archeological sites) from those impacts, and research efforts should be undertaken so that the historical value of the bridge and/or the little-known community may be adequately documented.

These research and documentation efforts are likely to include, but should not be limited to, assessment by an architectural historian; research into the various municipal, county, and state records to determine the history of the resource (and individual resources within a district); the collection of oral history interviews; the development of an historic context so that the significance of the resource can be effectively conveyed; preservation of the resource (and individual resources within a district) that may be impacted by the construction of levees or other components of the flood control system; and/or appropriate HABS/HAER documentation (to be determined in consultation with the Texas State Historic Preservation Officer) of any resources that will be impacted or destroyed by the construction project.

In addition to the above two important B-series resources elsewhere recommended as eligible for inclusion in the NRHP, three buildings (Resources B-121, B-122, and B-123) were identified during the current research as potentially eligible for listing in the NRHP. Resource B-121 is a distinctive industrial/institutional building (functional design with minimal decorative elements, dark red/brown brick construction, limestone accents, original six-over-six light wood-sash windows) that appears to be in good condition. The building was probably built in the 1920s or 1930s. Resources B-122 and B-123 are also constructed of dark red/brown brick with minimal decorative elements, but have accents of white brick rather than limestone, and have single-pane sashes.

Table 6
Assessment of Architectural Resources Within the Dallas Floodway Extension Project APE

CATEGORY 1[1]	CATEGORY 2[2]	CATEGORY 3[3]		CATEGORY 4[4]	CATEGORY 5[5]	
B-121 (1c)	B-13	B-6 - B-9	B-198		B-1 - B-5	B-213
B-122 (1c)	B-91	B-30	B-199		B-10 - B-12	B-215
B-123 (1c)	B-94	B-31	B-206		B-14 - B-17	B-217 - B-227
B-268 (1c)	B-96	B-33	B-216		B-28	B-229
B-727 (1b)	B-99	B-44	B-257		B-29	B-230
	B-102	B-72	B-258		B-32	B-241 - B-256
	B-115	B-73	B-287 - B-294		B-34 - B-43	B-259 - B-267
	B-196	B-85 - B-87	B-296 - B-302		B-45 - B-71	B-269 - B-286
	B-197	B-103	B-304 - B-322		B-74 - B-84	B-295
	B-200	B-107	B-345 - B-347		B-88 - B-90	B-303
	B-201	B-116	B-377		B-92	B-323 - B-344
	B-212	B-119	B-380		B-93	B-348 - B-376
	B-214	B-124 - B-126	B-382		B-95	B-378
	B-228	B-129	B-401		B-97	B-379
	B-231 - B-240	B-142	B-411		B-98	B-381
	B-713	B-173 - B-177	B-537		B-100	B-383 - B-400
	B-724	B-182 - B-185	B-580 - B-582		B-101	B-402 - B-410
	B-725	B-187	B-584		B-104 - B-106	B-412
		B-188	B-586		B-108 - B-114	B-413
		B-190	B-591		B-117	B-419 - B-469

CATEGORY 1[1]	CATEGORY 2[2]	CATEGORY 3[3]		CATEGORY 4[4]	CATEGORY 5[5]	
		B-191	B-677		B-118	B-478 - B-536
		B-195	B-703		B-120	B-539 - B-579
					B-127	B-583
					B-128	B-585
					B-130 - B-141	B-587 - B-590
					B-143 - B-172	B-592 - B-654
					B-178 - B-181	B-656 - B-673
					B-186	B-678 - B-702
					B-189	B-704 - B-712
					B-192 - B-194	B-714 - B-723
					B-202 - B-205	B-726
					B-207 - B-211	

Footnotes to Table 6

[1] Category 1 — potentially eligible
- 1a — resource of great importance in Dallas history;
- 1b — resource of moderate importance in Dallas history;
- 1c — resource of minor importance in Dallas history;
- 1d — resource whose significance is not based on its role in Dallas history.

[2] Category 2 — not considered eligible.

[3] Category 3 — currently not 50 years old and will not be 50 years old at the time the project is expected to begin (estimated at 2004).

[4] Category 4 — currently less than 50 years old, but is potentially eligible and will be at least 50 years old before the project is expected to begin (estimated at 2004).

[5] Category 5 — data insufficient to determine classification.

Table 7
Additional Research Needs for Architectural Resources Within the Dallas Floodway Extension APE[1]

FURTHER RESEARCH NEEDED			NO FURTHER RESEARCH NEEDED	
B-1 - B-5	B-120 - B-123	B-348 - B-376	B-6 - B-9	B-195 - B-201
B-10 - B-12	B-127	B-378	B-13	B-206
B-14 - B-17	B-128	B-379	B-30	B-212
B-28	B-130 - B-141	B-381	B-31	B-214
B-29	B-143 - B-172	B-383 - B-400	B-33	B-216
B-32	B-178 - B-181	B-402 - B-410	B-44	B-228
B-34 - B-43	B-186	B-412	B-72	B-231 - B-240
B-45 - B-71	B-189	B-413	B-73	B-257
B-74 - B-84	B-192 - B-194	B-419 - B-469	B-85 - B-87	B-258
B-88 -- B-90	B-202 - B-205	B-478 - B-536	B-91	B-287 - B-294
B-92	B-207 - B-211	B-539 - B-579	B-94	B-296 - B-302
B-93	B-213	B-583	B-96	B-304 - B-322
B-95	B-215	B-585	B-99	B-345 - B-347
B-97	B-217 - B-227	B-587 - B-590	B-102	B-377
B-98	B-229	B-592 - B-654	B-103	B-380
B-100	B-230	B-656 - B-673	B-107	B-382
B-101	B-241 - B-256	B-678 - B-702	B-115	B-401
B-104 - B-106	B-259 - B-286	B-704 - B-712	B-116	B-411
B-108 - B-114	B-295	B-714 - B-723	B-119	B-537
B-117	B-303	B-726	B-124 - B-126	B-580 - B-582
B-118	B-323 - B-344	B-727	B-129	B-584
			B-142	B-586
			B-173 - B-177	B-591
			B-182 - B-185	B-677
			B-187	B-703
			B-188	B-713
			B-190	B-724
			B-191	B-725

Footnotes to Table 7

[1] Research recommended if the design or layout of the Dallas Floodway Extension Project levee system and flood control components is altered such that it would impact one or more of these resources.

These latter two buildings were probably constructed somewhat later than Resource B-121, their architectural design intended to complement that of the former structure. These three buildings, as well as any other buildings in the complex in which they are located, will need to be assessed by an architectural historian should construction of the levees or other flood control system components directly or indirectly impact these buildings in any way.

TASK 4 - GEOARCHEOLOGICAL INVESTIGATIONS

General Landscape Geomorphology and Geological Setting

Dallas County, Texas, is situated predominantly in the Blackland Prairie Physiographic province, at the up dip edge of the Gulf Coastal Plain and the northwest limit of the East Texas Embayment (Allen and Flannigan 1986). The city of Dallas sits in an hourglass-shaped valley formed by differential erosion of three exposed marine bedrock units of Cretaceous age: Eagle Ford Shale, Austin Chalk, and Taylor Marl. Surficial deposits of clayey upland residuum, terraced alluvial deposits of Pleistocene age, and late Pleistocene to Holocene flood plain alluvium cover bedrock units to various depths. Elevations of upland landscapes in metropolitan Dallas range from about 120 to 150 meters amsl.

The Trinity River drains Dallas County and surroundings. Three branches join west of the city, then the main stem flows through downtown Dallas and through the APE in the southern part of the city. The West Fork, the Elm Fork, and White Rock Creek are the principal tributaries near the Dallas Floodway Extension APE. The main stem of the Trinity River has a distinct Holocene flood plain. Multiple Pleistocene terraces have been recognized on the valley flanks (Ferring 1990).

Surface weathering of the Cretaceous upland bedrock exposures has left most of the uplands covered with residual clay soils. Weathering profiles can be up to 7 m in thickness. Soils developed in chiefly loamy to sandy Pleistocene alluvium form on fluvial terraces. Flood plain soils form at the tops of the alluvial units found beneath flood plain geomorphic surfaces.

The alluvial stratigraphy, soils stratigraphy, and geomorphology of the Upper Trinity River have been investigated in a variety of studies. Ferring (1990) summarizes the history of geomorphic investigations and provides a working stratigraphic framework that can be applied to the Dallas Floodway Extension APE. Details of alluvial stratigraphic units and paleosol stratigraphy can vary within the Trinity River valley; however, lithostratigraphic properties, cross cutting relationships, and superposition of stratigraphic units allow for a general correlation to the stratigraphy of Ferring (1990). General elements of the Ferring (1990) Trinity River model are summarized below for comparison to the newly acquired data from the Dallas Floodway Extension APE.

Ferring (1990) recognized three terraced Pleistocene stratigraphic units and five flood plain stratigraphic units of Late Pleistocene to modern age in the Upper Trinity River. Terraced units are, in decreasing age, Irving, Coppell, and Tioga alluvium. Geomorphic position, areal distribution, lithologic properties, and upper bounding paleosols are included as criteria for unit differentiation. Units beneath the flood plain include, in decreasing age, Carrollton, Aubrey, Sanger, Pilot Point and Recent alluvia. General stratigraphic properties of these units in their type areas are summarized in Table 8. A conceptual cross section (Figure 6) illustrates geologic relationships between alluvial units in the Dallas Floodway area.

In comparing the Ferring (1990) model to the data from the Dallas Floodway Extension APE, technical and logistical considerations must first be addressed. The correlation of the alluvial stratigraphic units by lithostratigraphic properties and relative stratigraphic positions allows for the development of a general correlation scheme. The paleosols at the top of each alluvial unit are implicit in Ferring's (1990) model; however, that does not require that paleosols will exist at all localities nor will they possess all properties described in their type areas. First, there are inherent variabilities in an individual paleosol, and second, there are possible upstream to downstream variations in properties over the distances involved from the type areas to the Dallas Floodway Extension APE.

Table 8
Lithologic Properties, Depositional Environments, and Inferred Ages of Alluvial Stratigraphic Units in the Upper Trinity River (adapted from Ferring 1990)

ALLUVIUM	LITHOLOGY	DEPOSITIONAL ENVIRONMENTS	INFERRED AGE
Recent	silt and clay grading to sand and gravel	meander belt alluvium, abandoned channel fill	alluviation <200 years
Pilot Point	silt and clay grading to sand and gravel	meander belt alluvium, overbank veneer over older alluvium	alluviation and soil formation from 4,500 years to present
Sanger	calcareous silt and clay; grades to sand and gravel	meander belt alluvium	alluviation from 11,000 to 7,500 yrs, soil formation from 7,500 to 4,500 years
Aubrey	bedded sand and gravel, finer-grained alluvial marls and lacustrine sediment	channel, abandoned channel fill, lake plain	alluviation from 14,000 to 11,000 years
Carrollton	loamy sediment grading to sand and gravel	meander belt alluvium	alluviation from 30,000 to 14,000 years
Coppell, Tioga, Irving	loamy sediment to sand and gravel	channel belt alluvium	> 30,000 years

A geomorphological map of the Dallas Floodway Extension APE and surrounding area was compiled from existing published geologic reports (Allen and Flannigan 1986; Ferring 1990), the published Soil Survey of Dallas County (USDA 1980), and data collected in this investigation (Table 9 and Figure 7). Stratigraphic data collected within the Dallas Floodway Extension Project Footprint (Table 10; and, see Appendix B: Cliff et.al 1997) provide information on the lithologic, pedologic, and geometric properties of surficial sediments associated with the geologic map units. A total of 17 vertical profiles was inspected and logged, from continuous EC traces and core samples collected with the Geoprobe (see Figure 7). Sediments associated with the various flood plain depositional environments recognized within the Dallas Floodway Extension Project Footprint have distinctive lithologic and pedologic properties that allow for their differentiation (see Table 11 and Appendix B: Cliff et.al 1997).

Pilot Point alluvium is typically the first mappable unit encountered below the flood plain surface. Recent alluvium locally covers this unit near the present Trinity River channel, and recent overbank deposits may be locally included in Pilot Point overbank veneer deposits. Pilot Point alluvium is characterized as a black to dark gray (10YR 4/1 to 5/2) silty clay loam to silt loam. In channel belt areas it grades downward to loamy or sandy textures, whereas outside of channel belts it veneers older alluvial units. The unit commonly has either an A-Bt-C or A-Bw-C horizon sequence. Plant rooting and bioturbation are the most common pedogenic processes. Pedogenic properties and stratigraphic position correlate to the West Fork paleosol of Ferring (1990). In channel belt areas the soil profile grades to stratified alluvium, but outside channel areas the base of the soil can be mixed with underlying alluvium.

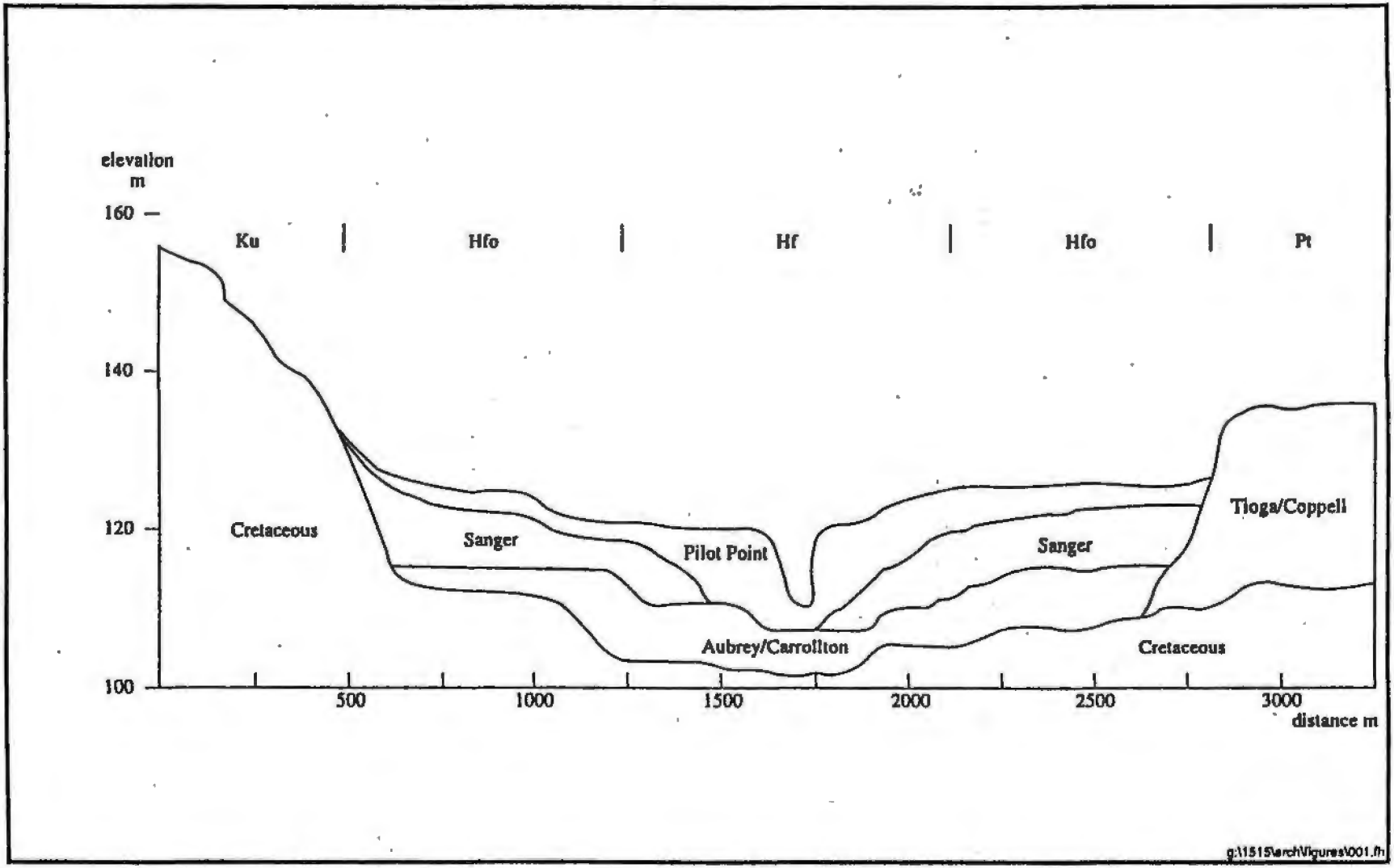

Figure 6. Conceptual geological cross section of the Trinity River valley in the Dallas Floodway. Alluvial deposits are inset into Cretaceous bedrock and terrace Pleistocene Tioga/Campbell alluvium. Pilot Point, Sanger, and Aubrey/Carrollton alluvium are the units beneath the present flood plain. Stratigraphic units are adapted from Ferring (1990).

Sanger alluvium occurs beneath the Pilot Point alluvium in most locations, except where it has been eroded by Pilot Point alluvium. This unit is characterized as a brownish (10YR 6/4) calcareous silt loam with yellowish (10YR 6/6) mottles that commonly grades downward to channel belt sand or sand and gravel. The base of the Sanger alluvium rests either on older Aubrey/Carrollton alluvium or Cretaceous rock. The unit commonly has a buried Btk-Ck or Bwk-Ck horizon sequence. Carbonate accumulations on ped surfaces, in root channels, and as concretions along with dark iron-manganese concretions are the most common pedogenic processes. Pedogenic properties and stratigraphic position correlate to the Arlington paleosol of Ferring (1990).

Table 9
Key to Geomorphological Map of the Dallas Floodway Extension APE

MAP UNIT		DESCRIPTION
Hf	Holocene flood plain	Youngest meander belt alluvium of the Trinity River; primarily Late Holocene in age. Areas of Pilot Point alluvium overlying older flood plain units. Deposits vary from silty clay loam overbank deposits to sandy channel and point bar deposits.
Hfo	Holocene flood plain, older surfaces	Flood plain deposits of the Trinity River primarily of Late Wisconsinan to Middle Holocene in age. Meander belt deposits of Sanger alluvium and lacustrine deposits of Aubrey/Carrollton alluvium underlie a veneer of Pilot Point overbank alluvium. Sanger alluvium generally has silt loam overbank deposits and sandy channel and point bar deposits. Aubrey/Carrollton alluvium are clayey to silty deposits of primarily overbank swamps, marshes, and lakes with interspersed channel deposits.
Ht	Holocene tributary alluvium	Sediments of primarily Holocene age deposited in small tributaries of the Trinity River.
Pt	Pleistocene terraces	Loamy to sandy flood plain alluvium of primarily Middle Wisconsinan age; terraced above flood plain levels. Coppell/Tioga alluvium identified along the terrace edge.
Ku	Cretaceous bedrock	Undifferentiated limestones; surface deposits can be covered with clayey residuum.

Aubrey/Carrollton alluvium occurs beneath younger Pilot Point and/or Sanger alluvium. This unit is characterized as a dark grayish (10YR 5/1) to yellowish brown (10YR 7/6) silty clay loam to clay loam that is interbedded with sandy loam to sand. Plant roots, root traces filled with carbonate and/or iron oxide, carbonate concretions, and gastropod shells characterize the unit. Soil development at the top of the unit is commonly weak, and C or Cg horizons were noted in most samples.

Coppell/Tioga alluvium was identified at a single location beneath the Pleistocene terraces in the Dallas Floodway Extension Project Footprint. At this location a reddish (5YR 6/8) sandy clay loam Bt horizon with grayish (10YR 7/2) mottles was identified. Paleosol characteristics include moderate development of soil structure, clay accumulations on peds and in root traces, and manganese stains and concretions. The paleosol grades downward into bedded sand and gravel.

The traces of EC versus depth are used to identify significant paleosurfaces in the Project Footprint. Buried paleosurfaces are typically represented by a distinct increase in EC, followed by decreases in EC with depth as the probe moves from clay rich, weathered sediments to zones of less weathered soil. Textural variation associated with processes of flood plain sedimentary deposition produce erratic or sawtooth-shaped traces. Zones of high EC values that grade downward to zones of low EC values reflect fining upward sequences in the Trinity River flood plain alluvium.

For example Probe DF8, taken from Sargent Park, clearly shows three alluvial fill sequences above Cretaceous rock (Figure 8;see Figure 10:Cliff et.al 1997). The sharp increase in EC at the top of unit 2 and unit 3 reflect the buried Sanger and Aubrey/Carrollton paleosurfaces respectively. Similar patterns have been identified in EC traces collected elsewhere in the Project Footprint. The typical pattern of EC as a function of sediment texture and soil weathering is affected by the position of the water table. For example, the transition from moist to water-saturated Sanger alluvium at Probe DF14, taken from Moore Park, shows a distinct increase in EC as the water table is encountered (see Figure 11: Cliff et.al 1997).

Pilot Point alluvium is typified by relatively low EC values that often grade into sawtoothed patterns when stratified sediments are present. Sanger alluvium commonly has a sharp upper bulge in conductivity that typically decreases as the trace becomes sawtoothed as it penetrates coarser interbedded sediments below. The Aubrey/Carrollton alluvium often has an erratic sawtoothed trace along with highly variable penetration rates, due to the consolidated nature of the deposit and its high degree of textural variability. Weathered bedrock was recognized by sharp decreases in EC values, followed by a refusal to penetrate the indurated Cretaceous limestone.

Based on the initial characterization of EC traces in the Dallas Floodway Extension Project Footprint, a correlation of EC traces to alluvial units has been accomplished. It is important to note that the relative pattern of EC as a function of depth is the primary correlation criteria, not the quantitative EC values of individual units. Interpretations of alluvial units from the EC traces are labeled on the individual logs (see Appendix B: Cliff et.al 1997). These logs were prepared by importing the EC data into a spreadsheet, converting the depth curve to meters, and plotting the resulting data transforms. Interpreted stratigraphy of individual traces is included on the EC traces (see Appendix B: Cliff et.al 1997).

Landscape Evolution Summary

The data collected in the Dallas Floodway Extension Project Footprint and the implications of the geomorphological mapping can be compared to previous investigations in the Trinity River to provide a general landscape evolution summary applicable to the APE. This landscape evolution summary can be used to infer general paleoenvironmental evolution, assess archeological site distribution data, and provide cultural resources management recommendations for areas impacted by the project. Geomorphological map units and alluvial deposits within the APE are correlated to the model of Ferring (1990) for the purpose of inferring regional events in the Trinity River basin (Table 10).

The oldest Trinity River deposits in the area are the Coppell/Tioga alluvium. This unit reflects a period of slow valley alluviation at a base level higher than present. Stream channels were relatively shallow, bedload dominated meander belts and climatic conditions were probably comparable to the modern. The unit formed in mid- Wisconsinan time, probably before 30,000 years ago (Ferring 1990).

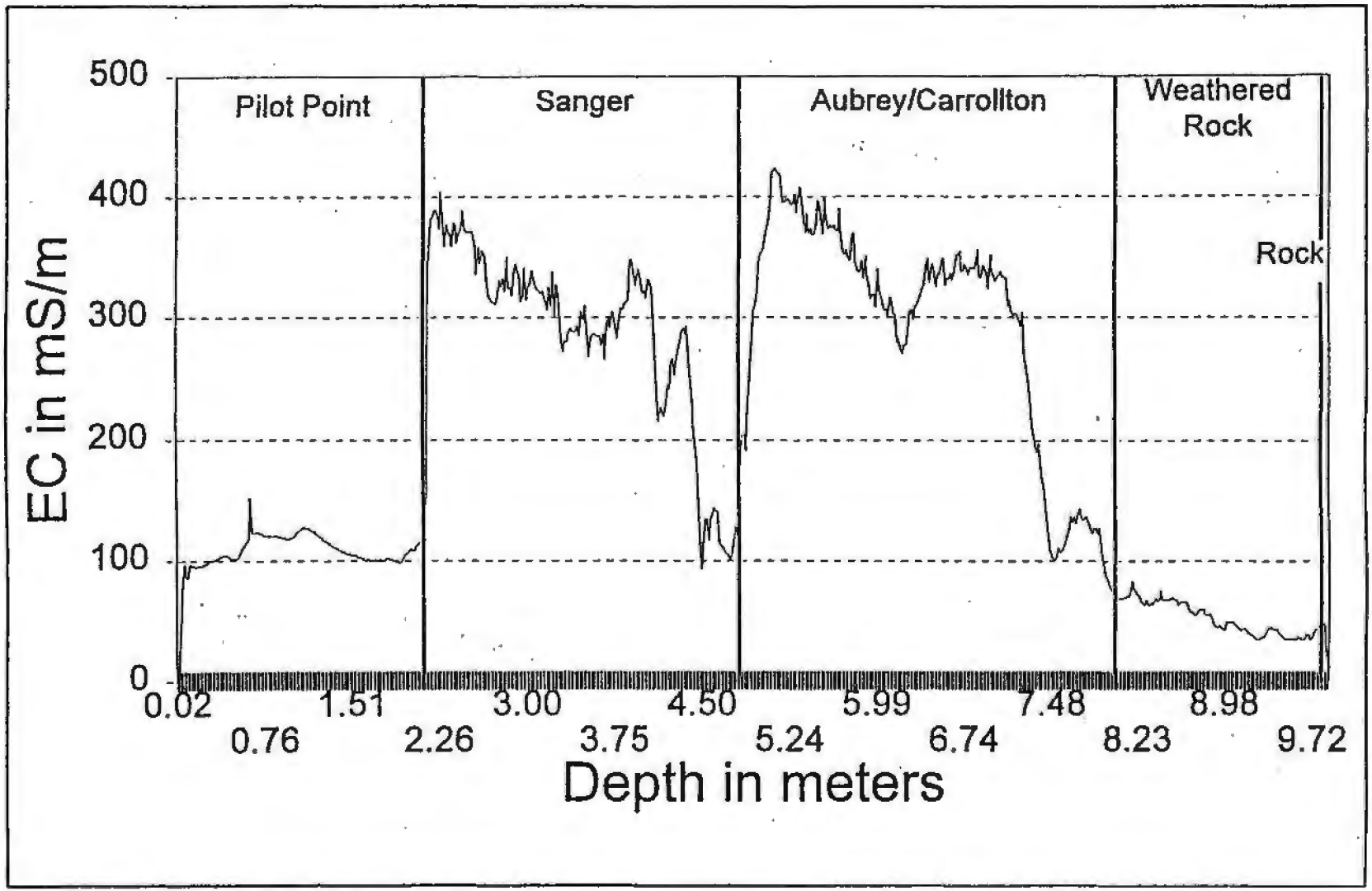

Figure 8. An example of an EC trace, Probe DF8 at Sargent Park, showing interpretations of alluvial units.

Table 10
Comparison of Upper Trinity River Stratigraphy to Units in the Dallas Floodway Extension Project Footprint

UPPER TRINITY RIVER (FERRING 1990)			DALLAS FLOODWAY EXTENSION	
ALLUVIUM	TERRACE SURFACE	AGE	ALLUVIUM	SURFACE(S)
Pilot Point	Denton Creek	< 4,500 years	Pilot Point	Holocene flood plain (Hf)
Sanger	Denton Creek	4,500 to 11,000 years	Sanger	Holocene flood plain, older surfaces (Hfo)
Aubrey	Denton Creek	11,000 to 14,000 years	Aubrey/ Carrollton	Holocene flood plain, older surfaces (Hfo)
Carrollton	Hickory Creek	14,000 to 30,000 years		
Coppell/Tioga	Stewart Creek	> 30,000 years	Coppell/Tioga	Pleistocene terraces (Pt)
Irving	Stewart Creek	> 30,000 years	not identified	

Onset of continental glaciation produced widespread and rapid valley incision throughout much of Central Texas (Blum et al. 1994; Ferring 1990). Climatic instability and associated increases in effective precipitation not only induced incision of Trinity River into its present flood plain, but also resulted in alluviation of the Carrollton/Aubrey sequence in a low relief, wetland dominated flood plain. The lithologic and stratigraphic attributes of this unit suggest that the Trinity River flood plain was a mosaic of swamp, marsh, and lakes with interspersed scattered stream channels. Sediment delivered to the flood plain was derived from erosion of the upland residuum, triggered by vegetational instability associated with full glacial climate changes (Blum et al. 1994).

Rapid alluviation in the Trinity River ensued with early Holocene meander belt development and deposition of the Sanger alluvium (Ferring 1990). A return to increased climatic stability and seasonality occurred (Blum et al. 1994) at this time. The lithology of the Sanger alluvium may in part be a result of the widespread exposure of Cretaceous rock in the Trinity River basin after Late Pleistocene stripping of residuum. The middle Holocene is characterized by a transition toward modern climatic conditions. The Trinity River flood plain exhibited a slowing of the rate of alluviation and concurrent increase in the rate of alluvial pedogenesis (Ferring 1990).

The Late Holocene is typified by varying rates of alluviation and pedogenesis and deposition of channel belt alluvium and overbank veneers draping older flood plain surfaces. Soil formation was concurrent with sedimentation to produce the thick, cumulative West Fork paleosol at the top of Pilot Point alluvium (Ferring 1990). The most significant disruption in the cumulative aggradation of the Pilot Point sequence is an inferred period of drier climate about 1,000 years ago (Hall 1990). Hall cites widespread occurrence of an alluvial discontinuity in the southern Great Plains; however no data to either support or refute this idea was generated in this investigation.

Recent alluviation occurs near the modern channel of the Trinity River. Recent overbank veneers probably drape the entire Trinity River flood plain, but recent mud drapes cannot be confidently separated from upper Pilot Point alluvium based on available data. Ferring (1990)

indicates that the Recent alluvium is young, but he does not specifically correlate this unit to the onset of European settlement in the region. Similar alluviation associated with Euro-American land use alteration has been suggested throughout the Mississippi River drainage basin (Autin 1992; Bettis and Autin 1997; Grissinger et al. 1982; Knox 1972).

Results of Model Testing

The preliminary results of the geological investigation of the Dallas Floodway Extension APE suggests the presence of significant buried paleosurfaces in areas of project impact. Geological testing with Geoprobe proved to be useful for recognizing buried paleosurfaces, however documentation of significant cultural deposits cannot be accomplished without further field testing. Trenching at high likelihood locations did not yield significant new sites (see Figure 6), but this does not preclude the possibility of impacting sites during project implementation.

The following areas were field tested to look for buried prehistoric cultural deposits. Moore Park shows stratigraphic continuity between probes DF13 and DF14. The upper dark unit is about 1.8 m thick at DF13, but thins to about 0.9 m on the valley edge at DF14. The upper unit is Pilot Point alluvium and the underlying early to middle Holocene paleosurface is Sanger alluvium containing the Arlington paleosol. The area at Sargent Park (probe DF8) has the most representative of all EC traces. The Sanger paleosurface identified at Moore Park is at about 2.1 m below the land surface. A trench into the Arlington paleosol at the top of the Sanger paleosurface was placed here for comparison to the Moore Park locality. The data collected at Moore Park identify a paleosurface that traces from the valley edge onto the flood plain of the Trinity River. The lithology beneath this surface has been identified at other locations, but the geomorphic development of a terrace edge escarpment is a likely setting for prehistoric cultural deposits.

Two trenches were placed in Moore Park—the first was at the break in slope adjacent to the flood plain east of probe DF14, and the second was upslope and to the south. The first trench revealed about 2 m of colluvial loam with abundant limestone fragments overlying the Sanger paleosurface. The contact between the paleosurface and the colluvium was diffuse, and the surface horizons of the Arlington paleosol were not present. The paleosurface appears to be an eroded B-horizon and yielded no cultural deposits. The second trench was placed about a meter higher in elevation, and the profile was the same, about 2 m of loamy colluvium over the clay loam Sanger paleosurface.

The EC and core data at Sargent Park identified three surfaces above Cretaceous rock, including the present land surface. Multiple episodes of alluviation and landscape stability are conducive to finding possibly significant buried prehistoric cultural deposits. Backhoe trenches were unable to reach the lower Aubrey/Carrollton paleosurface, but did reach the upper Sanger paleosurface. The Sanger appeared to be a truncated or eroded B horizon with surficial paleosol horizons absent. The overlying Pilot Point alluvium is a dark alluvial clay with occasional bits of broken limestone, presumably from the nearby uplands. No cultural deposits were present on the truncated paleosurface. Water-saturated sandy deposits were encountered beneath the truncated Arlington paleosol before reaching the full limit of the backhoe.

The truncated nature of the Sanger paleosurface and its burial by overbank deposits of Pilot Point alluvium, as well as its colluvial equivalent, exemplifies the nature of the alluvial transition between these units. Surface A and E horizons probably developed, but have been reworked into the overlying deposit.

The Diversion Channel is likely to impact flood plain deposits to the greatest depths in sequences that also contain evidence of buried paleosurfaces. Trenching in this area was conducted to provide insight into the potential for buried prehistoric impact prior to channelization during project implementation. The EC traces at DF16 and DF17 show what appear to be a buried paleosurface at about 1.5 m, whereas this surface appears to be at about 3.4 m at DF15. Trenches

were aligned to look at the edge of what appeared to be a topographic feature, possibly the edge of a cut-and-fill feature.

The first trench was placed in the vicinity of DF15. It proved to be disturbed sequence with a high water table between 2 and 3 m below land surface. The trench revealed recent sandy loam over a dark clayey sediment with historic material and logs that appears to be artificial fill. The second trench was placed between DF15 and 16 and showed between 1 and 2 m of recent sandy loam over alluvial clayey deposits. At the top of the clayey sediment was the buried West Fork paleosol. Below this buried surface the clay continued to deeper than 4 m, and no cultural deposits were found in the trench.

The third trench was placed almost due east of the second, in a modern natural levee ridge. A 1- to 2-m-thick recent sandy loam levee deposit buried the dark clayey alluvium that contains the West Fork paleosol. The Pilot Point alluvium continued down to deeper than 4 m, and no cultural deposits were found in the trench. The fourth trench was placed east of DF16. Here a dark clay was present from the land surface down, but the upper part appeared to be disturbed, containing an anomalous mottled brown clay. Based on the trench results, the paleosurface defined by the EC traces is the West Fork paleosol covered by recent (European historic?) flood deposits. The depth of the paleosurface in DF15 may be due to disturbance, not to a change in the paleotopography.

RECOMMENDATIONS

Task 1 and Task 4 - Archeological and Geoarchaeological Evaluations

A total of 41 previously recorded archeological sites are located either within or adjacent to the APE, with 14 of these sites in the vicinity of the Project Footprint (see Figure 4). Evaluation of many of these sites proved difficult due to problems of high water conditions and the suspected misplotting of the sites recorded in the 1940s and 1950s. Of the 14 sites in the Project Footprint, it is recommended that six sites be considered not neligible for inclusion in the NRHP (41DL69, 41DL70, 41DL84, 41DL104, 41DL220 and 41DL317) due to heavy disturbance by construction, gravel mining, and erosion. It is further recommended that eight sites (41DL318, 41DL319, 41DL320, 41DL337, 41DL338, 41DL355, 41DL356 and 41DL357) be considered eligible for inclusion in the NRHP based on good research potential. It is believed that the seven prehistoric sites may yield data relevant to research problems like paleoenvironmental reconstruction, culture history, settlement-subsistence systems, lithic raw material use patterns, and prehistoric technology. Sites 41DL318, 41DL319 and 41DL357 are all located 1.5 to 2 m below surface, adjacent to the current channel of the river, within 100-120 m horizontal distance of each other, and may represent a single site composed of multiple artifact concentrations. Likewise, sites 41DL337, 41DL338, 41DL355 and 41DL356 are also arguably a single site. They are all located between the current channel and the Central Waste Water Treatment Plant, approximately 3 m below surface and within 100-120 m horizontal distance of each other. Apart from these two prehistoric site clusters, only the old City of Dallas dump, Site 41DL320, appears to retain substantial research potential..

Of the remaining 27 sites in the APE, it is recommended that one (site 41DL223) be considered not eligible for inclusion in the NRHP, while the other 26 be considered potentially eligible for inclusion in the NRHP (sites 41DL67, 41DL68, 41DL71, 41DL72, 41DL73, 41DL76, 41DL77, 41DL78, 41DL79, 41DL80, 41DL91, 41DL92, 41DL99, 41DL102, 41DL105, 41DL204, 41DL205, 41DL206, 41DL207, 41DL208, 41DL350, 41DL351, X41DL36, X41DL38, X41DL39, and X41DL40). The high proportion of potentially eligible sites is due to the lack of right-of-access to these properties resulting in an inability to evaluate their current condition. Only the sites in the Joppa Wildlife Preserve and the McCommas Bluff Park had clear public access, but the field crew was unable to shovel test these sites.

When the final Project Footprint is identified, it is recommended that a 100 percent

pedestrian survey be undertaken during a period of low-water to identify the specific cultural resources that will be effected by the project. Prior to the surface survey, a chain of title and archives study should be undertaken to identify historic land use and potential historic site loci for concentrated and intensive search activity. The effort should concentrate on the profiles of minor drainages and borrow cuts for prehistoric resources.

Given the known presence of buried cultural resources sites within the Trinity River flood plain, a multistage Phase 1 subsurface survey must be employed to identify high and moderate site potential loci followed by a program of selective coring and exploratory trenching to locate and define the character and research potential of the resources. It is recommended that the initial survey strategy use a combination of Geoprobe readings at 20 m intervals to generate a topographic map of the buried surfaces that will be effected, followed by a coring program to acquire soil samples of the fossil deposits for sedimentary, pollen and radiometric dating purposes, as well as the identification of fossil sedimentary environments. An alternative to the Geoprobe-coring program may be the use of a Geddings Probe at intervals of 20 meters, although the data from all probes will have to be extensively analyzed to identify the various fossil deposits. Once these data have been analyzed, it will be possible to identify settings and deposits most likely to be associated with human occupation. The subsequent stage of the survey will entail the excavation of trenches using appropriate machinery (backhoe, trackhoe, dredge) dependant on terminal depth. One primary focus of intensive work should be given to those areas identified as containing *Holocene flood plain older surface* deposits. Resources determined to be potentially eligible must then be tested for eligibility through a Phase 2 program. Should any resources prove to be eligible and avoidance is not possible, a Phase 3 data recovery program may be necessary to minimize the loss of the resource. All phases of the investigation would be developed through a Programmatic Agreement or Memorandum of Agreement with interested parties, such as the Texas Historic Preservation Officer.

The APE encompasses an area south of the current Dallas Floodway, from Corinth Street on the northwest to I-635 on the southeast. The APE can be systematically divided into four types of impact areas based on the activities planned for the Dallas Floodway Extension. Each of the impact areas are assessed for the purpose of planning archeological surveys and managing cultural resources (Table 11). The following summary is designed as a general set of recommendations, and inferences should be verified as necessary prior to implementation into management initiatives or policies relative to Floodway construction, operation or maintenance.

Area 1 is an area of *new levee construction*. A total of 123 acres are scheduled for direct impact, which includes 75 acres on the Lamar Street side and 48 acres at Cadillac Heights. These areas include the northeastern edge of the Dallas Floodway Extension from the edge of the existing levee to a point east of I-45 in Rochester Park, the southwestern edge of the Dallas Floodway Extension from the Dallas Waste Water Treatment Plant to I-45, and a ring levee primarily surrounding part of the Cadillac Heights residential area. The new levee construction along the northeastern edge of the Dallas Floodway Extension is along the fringe of an area that is already heavily industrialized and disturbed. Areas previously impacted by industrial development are not likely to contain significant in situ prehistoric deposits. Areas southwest of the railroad track in the Rochester Park area mapped as Holocene, older flood plain may contain locations with possible buried cultural remains. Areas mapped as Pleistocene terraces may contain surficial cultural deposits.

The new levee construction along the southwestern edge of the Dallas Floodway Extension passes along the edge of the Dallas Waste Water Treatment Plant and I-45 right-of-way. Based on a consideration of present land use alterations, the chances of finding significant *in situ* prehistoric deposits are considered low. The new levee construction surrounding part of the Cadillac Heights area passes through areas of disturbed and undisturbed landscape. Much of the undisturbed landscape is mapped as Holocene, older flood plain, as characterized at Sargent Park, where multiple paleosurfaces were identified. Site potential in this area is considered moderate to

high.

Area 2 is *a diversion channel* to be developed in an area that parallels the present Trinity River both upstream and downstream of I-45. A total of 23 acres will be affected by the project, although direct massive impact will be essentially restricted to a 14-acre area. In this area, the diversion channel is likely to disturb flood plain alluvium to bedrock or nearly to bedrock.

Table 11
Matrix of Cultural Resources Potential, Dallas Floodway Extension APE

IMPACT AREA	EXISTING SURFACE MODIFICATION	SUBSURFACE POTENTIAL	POTENTIAL PROJECT IMPACTS
New levee construction, northwest area	intensive	moderate to high with depth	moderate to high below 1 meter
New levee construction, Cadillac Heights	low	high	high
Diversion channel	very low	high	high
Sump, northwest area	moderate	moderate to high with depth	moderate to high below 1 meter
Chain of Wetlands	limited	moderate to high	low to nil in upper 1 meter of deposit; moderate to high below 1 meter

Buried paleosurfaces were identified near the impact area. The survey program should be initiated in the area of the diversion channel, where the proposed undertaken will reach greatest depth. Previous survey in the flood plain, especially within the Project Footprint, has shown that sites may occur from 1.5 to 2 m below surface (sites 41DL102, 41DL318, 41DL319, 41DL350, and 41DL357) and as deep as 3 m below surface (41DL337, 41DL338, 41DL355, and 41DL356) in association with the Pilot Point and Sanger alluvia. The downstream portion of the proposed diversion channel will likely include excavation into the deeply buried Arbury Aluvium associated with Paleo-Indian occupation in the watershed.

Area 3 includes the *sump areas* to be created behind the new levees along the northeastern edge of the Dallas Floodway Extension. A total of 139 acres are scheduled for direct impact through sump construction. The areas along the northwest boundary of the Dallas Floodway Extension are mostly disturbed by prior industrial development and are not likely to contain significant *in situ* undisturbed prehistoric cultural deposits in the upper meter of deposits. However, prehistoric and early historic culture-bearing deposits may have been buried by leveling activity and the filling of headward eroding drainages prior to industrial development. The area is in close proximity to the Pleistocene valley wall and may have contained numerous specialized settings, e.g., seeps, drainage heads, that were often exploited by prehistoric inhabitants of the region. Many of these loci would have been covered by fill prior to construction and while they may have suffered compaction, their essential distribution could remain intact. The potential for these deposits should be investigated prior to and during construction.

Area 4 includes proposed *wetlands* that will be created along the southwestern edge of the Dallas Floodway Extension for purposes of environmental mitigation. A total of 271 acres will be impacted through varying amounts of excavation and/or terrain modification. Developing wetlands should produce minimal disturbances to buried cultural deposits, especially if wetland creation is simply the development of bottomland hardwood forest areas in the flood plain. However, using data from the lower West Fork for comparative purposes, the potential for impact to buried deposits increases substantially with excavation. At a minimum, careful monitoring by a professional archaeological team would subsequently be necessary should excavations be included in the undertaking.

Task 2 - Archival Evaluations

The review of historical resources suggests that information for the Project Footprint and APE is available. However, based on the *type* of resources that can be secured, the extraction of data will require a concerted amount of effort and time. Little information associated with the APE is compiled, thus, an in-depth examination of records, collections, and documents will be necessary in order to provide an accurate historical context. Since secondary sources of information on this area are limited, future research should also include interviews with long-term community residents, or other persons with specific knowledge about the area.

Inquiries into archival material at the Dallas Historical Society reveal two collections of papers that may contain valuable data—the Overton Family papers and the Sara Cockrell papers. The archivist was not able to confirm if these collections contained information pertinent to the APE, but given the proximity of the Overton property to the APE and since Cockrell's Bridge traversed the Trinity River, these collections are worth reviewing. It would also be worth investigating other files and collections at this repository. Other resources such as early newspapers, city directories, and historic photographs may also yield pertinent data.

Another potential source of information, especially for little-known African-American communities such as Joppa, is Black Dallas Remembered, Inc., which shares space with Preservation Dallas on Swiss Avenue. Dr. Mamie McKnight, founding director of Black Dallas Remembered, Inc., is currently updating file information on Joppa which should be available in July of 1997. In addition to this information, community residents should be interviewed for information on family and community history. Files at Preservation Dallas indicate that Joppa residents are likely to have historical knowledge, as many have lived in the area throughout their lives and are descendants of original inhabitants. One Joppa resident, in particular, appears to be quite interested in preserving the community's history (M. Greene 1996). Contact persons for all of the communities associated with the APE are available at Preservation Dallas; interviews with these persons could yield valuable information for each particular community.

The data contained in deed records can vary tremendously from one transaction to the next, and, as indicated in the examples for this survey, chain of ownership is not always straightforward, hence, it requires a considerable amount of time to track deed/title chains. Tracking the chain of title for a single property can take up to one day. Though it may take time to establish the chain of ownership, deed records do provide information that is useful for further investigations. Provided it can be established that the landowners lived on or made use of the property, then census records, tax records, wills, and directories may provide data that is useful for understanding land use, migration trends, urban growth, zoning changes, occupational trends, the material culture, and the built environment. Landowner's names are also useful for tracing descendants who might share their family's history, or for inquiring about documents and records left at archival repositories.

Future archival research for this area should include an examination of as many primary sources of information as is possible. Since published sources for this area are limited, data from a wide range of sources should be reviewed in order to develop a more comprehensive historical context that reveals the social and economic trends associated with this area.

Task 3 - Architectural Evaluation

Investigation of the architectural resources within the Project Footprint of the Dallas Floodway Extension revealed that there are 49 architectural resources that will be directly affected by the construction of the levee system or other flood control components, as presently proposed (see Table 6). These resources are composed of:

- Category 1 resources, three that should be assessed by an architectural historian and will require further archival research for any that the architectural historian recommends as NRHP-eligible;
- Category 2 and 3 resources, 43 that require no further work;
- Category 4 resources, three that will need to be assessed by an architectural historian or that requires further archival research when they become 50 years old (1999).

In addition, there are 699 B-series architectural resources. Of these, assessments have been made as follows:

- Category 1 resources, five that will need additional assessment and research should the layout or design of the levee system or other flood control components be altered such that these resources would be impacted;
- Category 2 and 3 resources, 120 that will require no further work should the layout or design of the levee system or other flood control components be altered such that these resources would be impacted;
- Category 4 resources, none have been assessed as such; and
- 574 will need additional research in order for an accurate assessment to be made should the layout or design of the levee system or other flood control components be altered such that these resources would be impacted.

The B-series resources that have been assessed as Category 1 resources (potentially eligible for inclusion in the NRHP) are:

- B-121, B-122, and B-123, all industrial/institutional buildings of distinctive architectural style that appear to be in good condition and to retain a reasonable degree of integrity;
- the Corinth Street Viaduct (B-268), which has previously been recommended eligible for inclusion in the NRHP by the Corps of Engineers (USACE-FW 1992:30); and
- the community of Joppa (B-727), a potential NRHP Historic District (only a portion of which is located within the APE).

All Category 1 resources are potentially eligible for inclusion on the NRHP. Each Category 1 A-series resource will need to be assessed by an architectural historian for their integrity, condition, and architectural/engineering significance. Each of those that is considered to be NRHP-eligible by the architectural historian will require further archival research to document its history and better determine its significance. The historic context of each resource will need to be established so that the significance of the resource can be effectively conveyed. Each NRHP-eligible resource

will also need to be preserved or appropriately documented according to HABS/HAER standards (the level of documentation required should be determined through consultation with the Texas State Historic Preservation Officer). Any Category 4 A-series resource that is upgraded to a Category 1 resource will require the same documentation efforts.

At this time, a Category 1 assessment of a B-series resource does not necessitate further research, documentation, or evaluation. However, should the layout or design of the levee system or other flood control components be altered such that these resources would be impacted, each will need to be treated in the same manner as the Category 1 A-series resources, as described in the preceding paragraph. Any Category 4 or 5 B-series resource that is upgraded to a Category 1 resource in future assessments will require the same documentation efforts if subject to impacts because of changes made to the layout or design of the levee system or other components of the flood control system.

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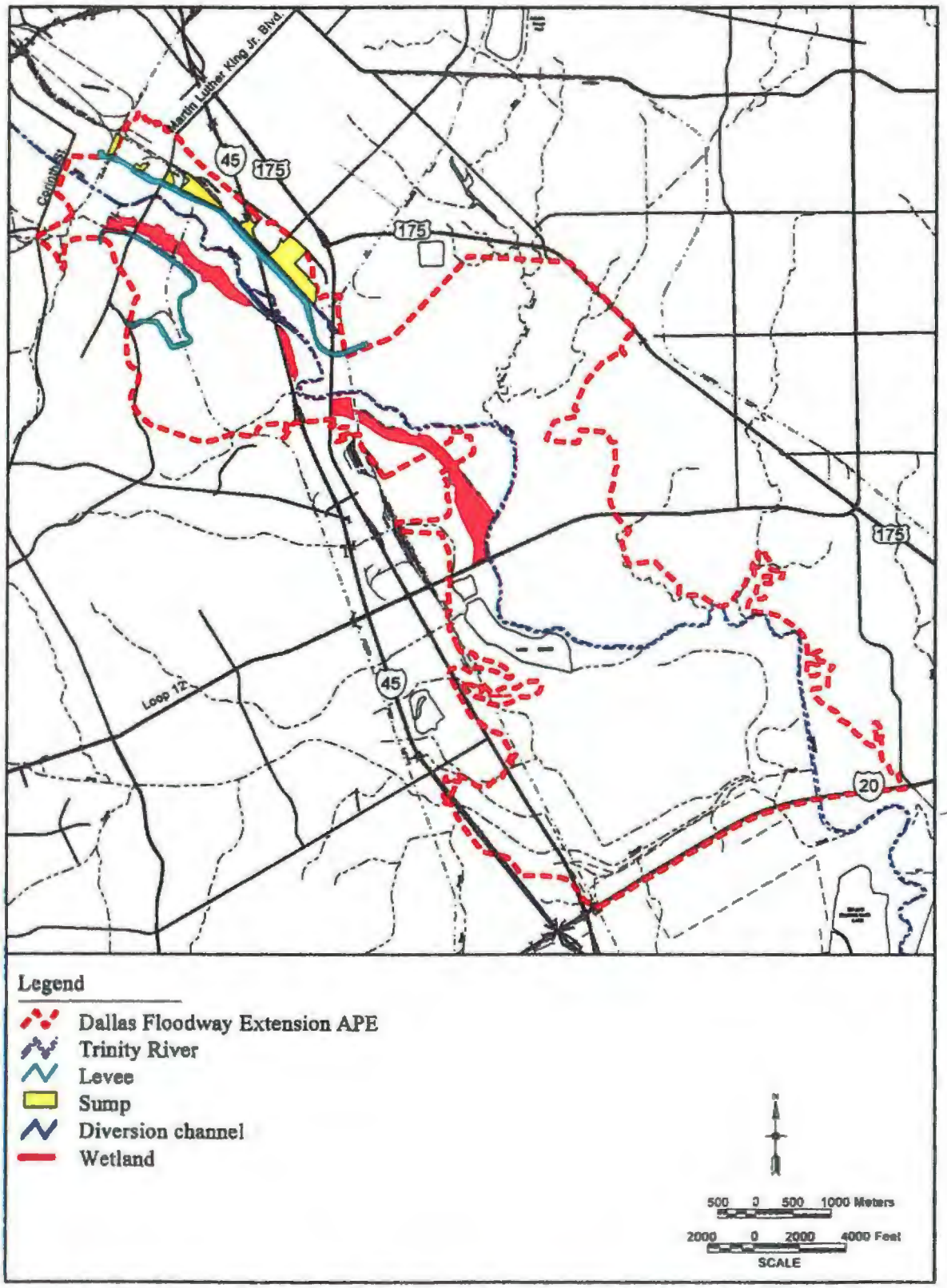
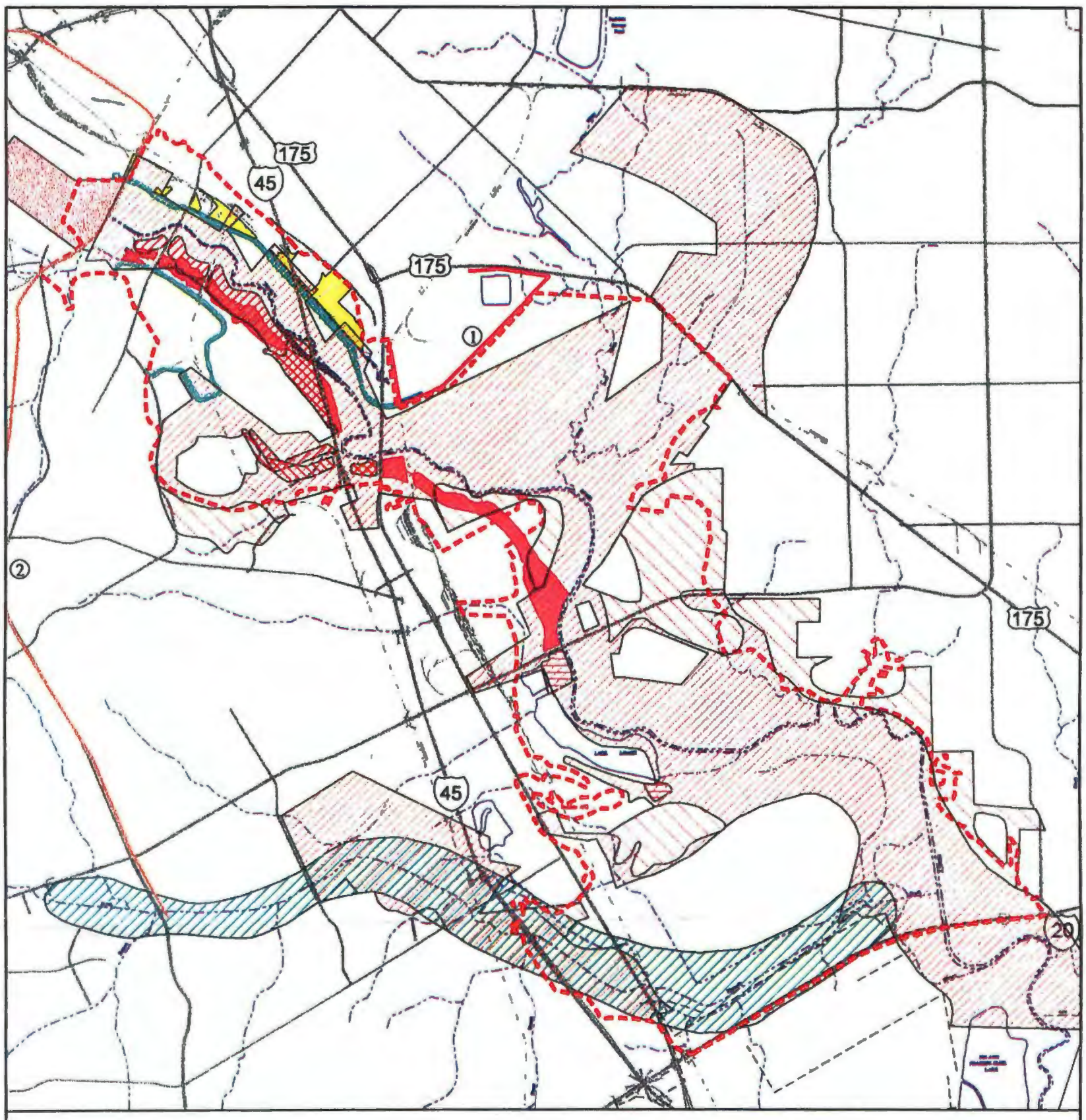


Figure 2. Map of the Dallas Floodway Extension APE and Project Footprint.



Legend

- Dallas Floodway Extension APE
- Trinity River
- McCormick 1976
- Bennett et al. 1981 flood plain
- Bennett et al. 1981 terrace
- ① Skinner, Young, Whorton and Collins 1990
- Skinner, Whorton, and Young 1991
- Skinner and Whorton 1993
- Skinner, and Whorton 1995
- Skinner, Whorton, and Trask 1996
- ② Skinner, Whorton, Trask, Scott, Caran, and Dillon 1996
- Levee
- Sump
- Diversion channel
- Wetland

N

500 0 500 1000 Meters

2000 0 2000 4000 Feet

SCALE

Figure 3. Map of Dallas Floodway Extension APE and Project Footprint, showing locations of previous cultural resources investigations conducted in the area.

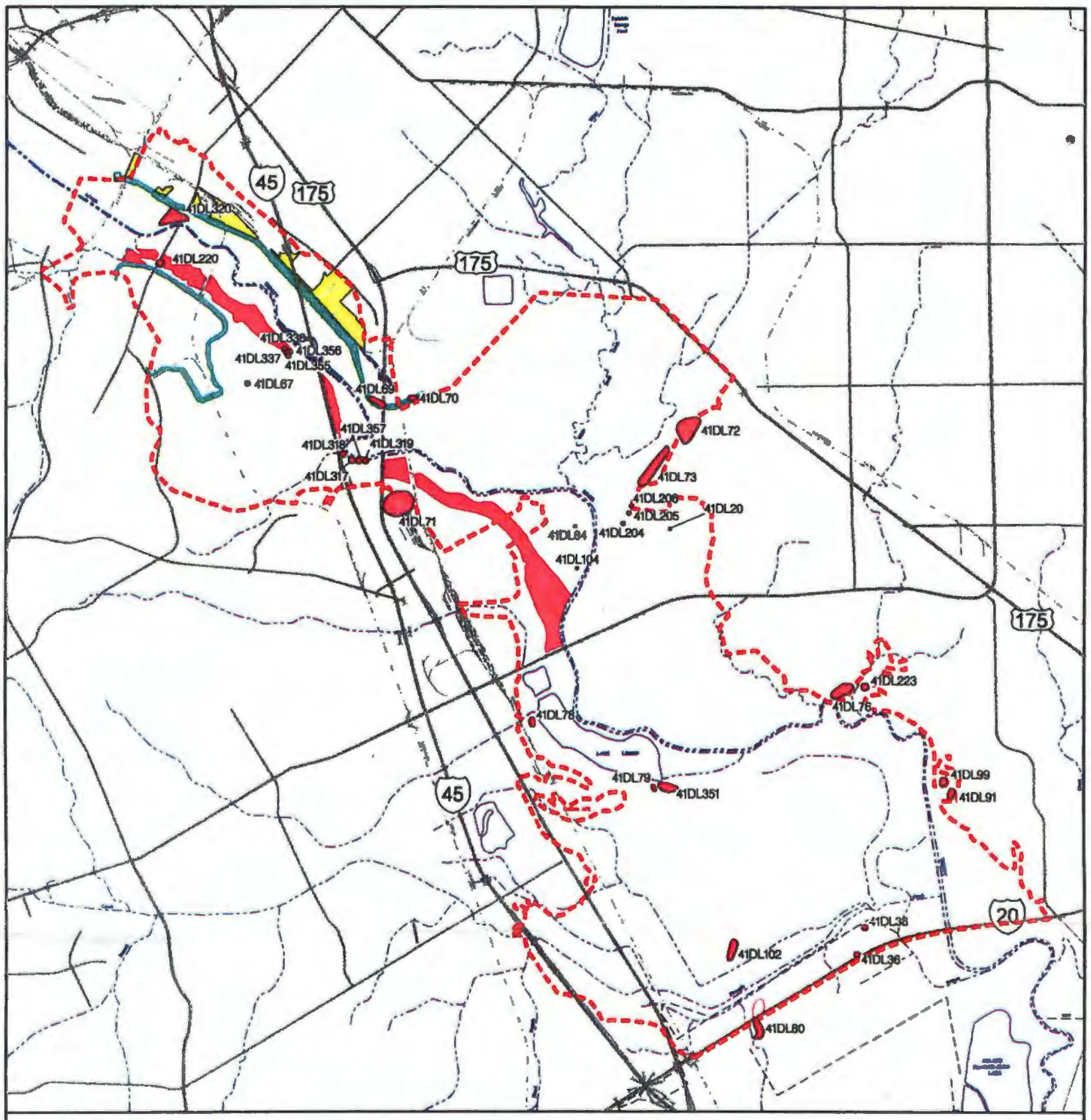


Figure 4. Map of identified archeological resources within the Dallas Floodway extension APE.

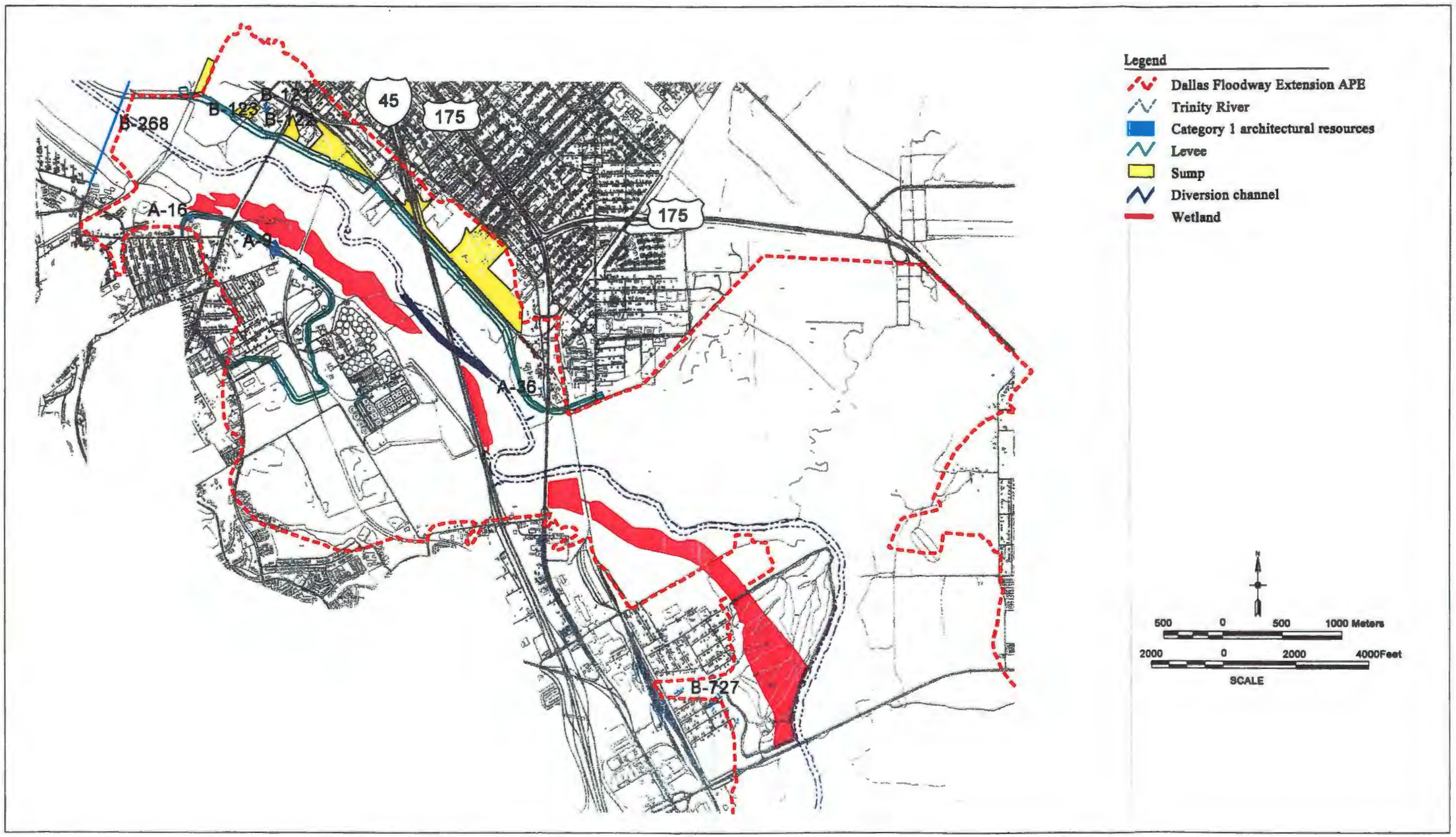


Figure 5. Map of Category 1 architectural resources within the Dallas Floodway Extension APE.

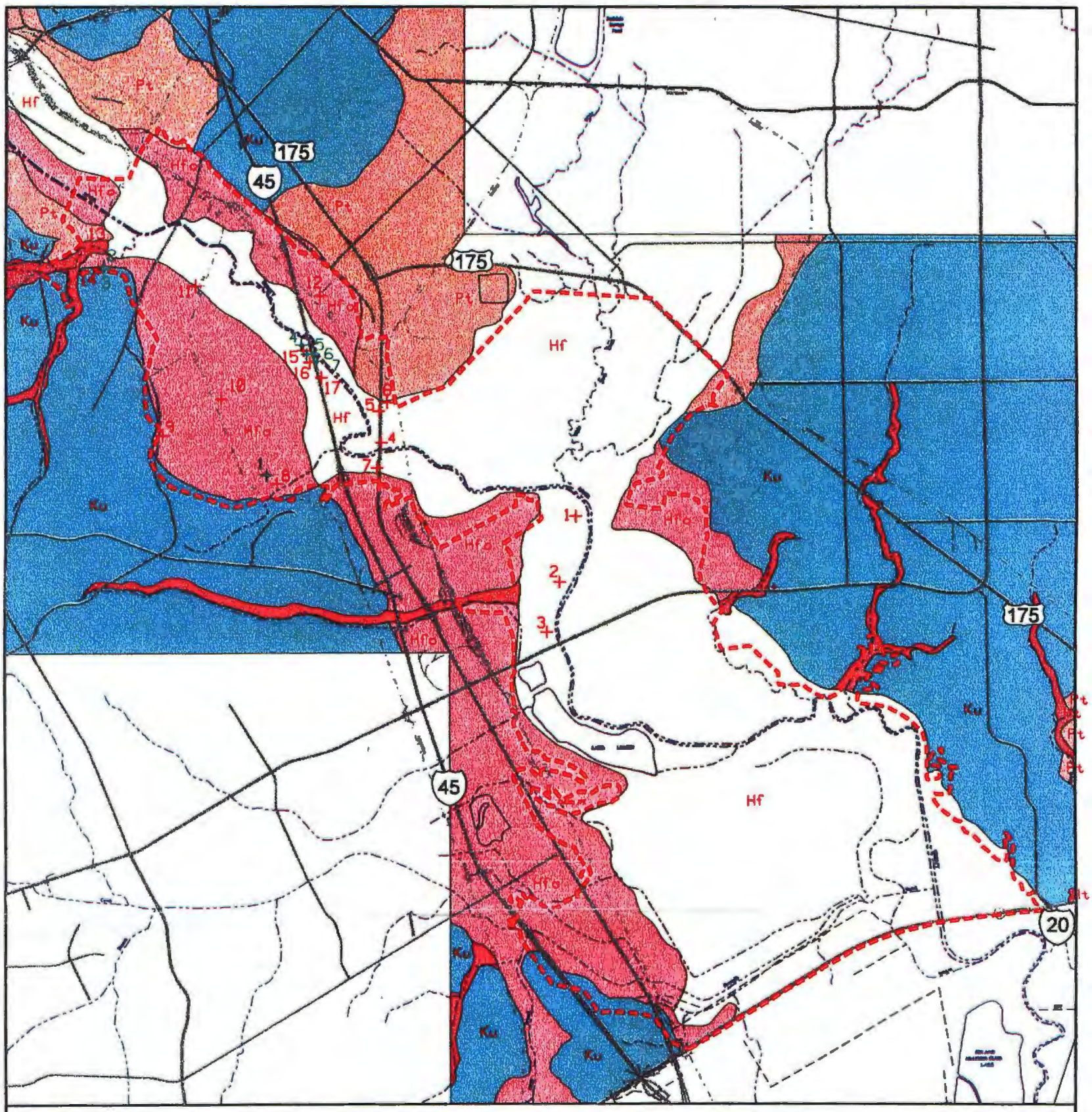


Figure 7. Geomorphological map of the Dallas Floodway Extension area (base map includes part of Dallas, Oak Cliff, and Hutchins, TX, USGS 7.5-minute topographic quadrangles.