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## **An Archaeological Survey of The Proposed HEB/Kroger Development Collin County, Texas**

Nick Coleman

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# An Archaeological Survey of The Proposed HEB/Kroger Development Collin County, Texas

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## ***AN ARCHAEOLOGICAL SURVEY OF THE PROPOSED HEB/KROGER DEVELOPMENT***

***COLLIN COUNTY, TEXAS***

SWF-2016-00185

By:

Nick Coleman, B.A.

Molly A. Hall, M.A.  
Principal Investigator

Prepared for:

**KBA ENVIROSCIENCE, LTD.**  
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Prepared by:

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805 Business Parkway  
Richardson, Texas 75081

Cultural Resources Report 2016-23  
June 24, 2016

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## **ABSTRACT**

Plans are in place for development of an approximately 29.52-acre tract of land in northwestern McKinney, Collin County, Texas. The tract is located southwest of the US 380/Lake Forest Drive intersection, and sits on the northern extent of the Wilson Creek floodplain and the adjacent upland. An intermittent stream flows through the site, and contains Waters of the U.S., which fall under the jurisdiction of the U.S. Army Corps of Engineers. KBA EnviroScience, Ltd., which is handling the project's environmental permitting, contracted AR Consultants, Inc. to survey this jurisdictional area. Survey of this approximately 2.08-acre study area was conducted June 23, 2016. No cultural resources were found on or below the surface. Based on these results, AR Consultants, Inc. recommends that further cultural resources within the jurisdictional area are unwarranted, and request that the U.S. Army Corps of Engineers and the Texas Historical Commission concur with this assessment. However, if cultural resources are uncovered during construction, AR Consultants, Inc. recommends that work should cease and that Texas Historical Commission archaeologists be consulted to assess the find prior to construction resuming.

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## INTRODUCTION

Plans are in place for development of an approximately 29.52-acre tract of land in northwestern McKinney, Collin County, Texas (Figure 1). The tract is located southwest of the intersection of Lake Forest Drive and University Drive (US 380), and has been purchased by the HEB Grocery Company, LP in preparation for construction of a Kroger grocery store. Located north of Wilson Creek, just downstream of its confluence with Stover Creek, the project area sits mostly within the Wilson Creek floodplain. Its approximate northeast third is located on the toe slope of an adjacent upland. The upland ridge is flanked by two unnamed, intermittent stream; the eastern of the two flows through the project area's northeast corner.

The intermittent stream within the proposed development tract contains Waters of the U.S., which are administered by the U.S. Army Corps of Engineers (USACE). Accordingly, a cultural resources survey of the USACE's jurisdictional area was necessary to satisfy the project's Section 404 Permit. It was determined prior to survey that the USACE's jurisdiction in the proposed project area was limited to the intermittent stream and adjacent riparian corridor. This, along with an adjacent water feature constituting the stream's original channel, was included in the approximately 2.08-acre study area. The purpose of the survey is to determine if cultural resources are present within the study area and, if so, to assess their potential significance and make determinations about their eligibility for inclusion on the National Register of Historic Places (NRHP). KBA EnviroScience, Ltd. (KBA), which is handling the environmental permitting for this project, contracted with AR Consultants, Inc. (ARC) to survey the proposed development tract; ARC conducted the survey on June 23, 2016.

Additional relevant federal legislation includes the National Historic Preservation Act of 1966, as amended (PL-96-515), the National Environmental Policy Act of 1969 (PL-90-190), the Clean Water Act, as amended (PL-92-500), the Rivers and Harbors Act of 1899, the Archeological and Historical Preservation Act of 1974, as amended (PL-93-291), Executive Order No. 11593 "Protection and Enhancement of the Cultural Environment," and Procedures for the Protection of Historic and Cultural Properties (36 CFR 800), Appendix C.

This report was prepared to be reviewed by the USACE and the Texas Historical Commission (THC). The Texas Antiquities Code does not apply to this investigation; however, the THC will be the Section 106 reviewer for the USACE. This report is written in accordance with report guidelines used by the Archeology Division of the THC (Council of Texas Archeologists n.d.). The following report presents a brief description of the natural setting of the project area, followed by a discussion of the culture history and previous investigations within the study area. A chapter on the research design and methodology employed in the investigation is then followed by the results of the field investigation. The report concludes with recommendations followed by the references cited and an appendix.

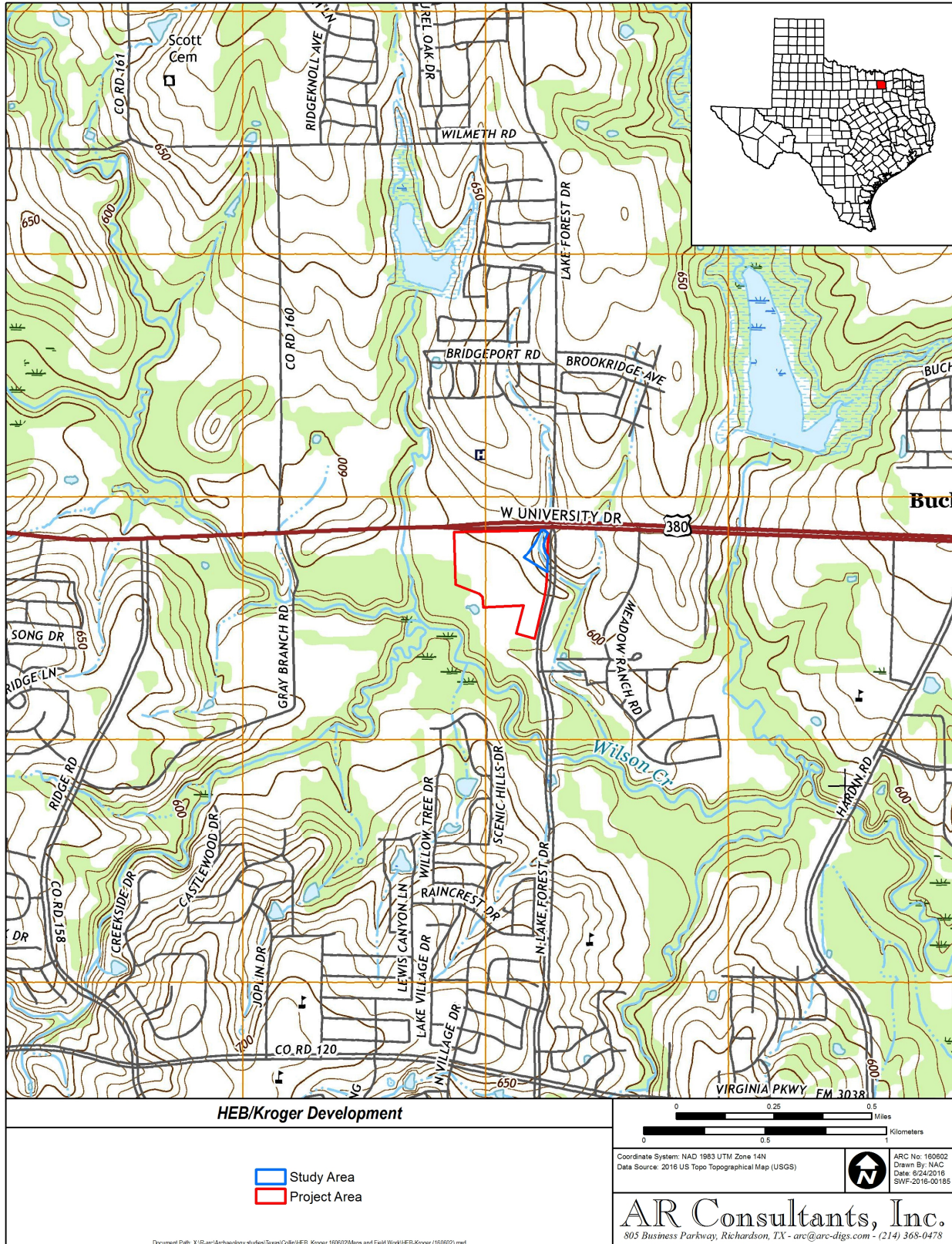


Figure 1. The proposed HEB/Kroger Development project area shown on the 2016 West McKinney, Texas US Topo topographic map.



Administrative Information:

Sponsor: KBA  
Review Agencies: Archeology Division of the THC, and the Fort Worth District of the USACE  
Principal Investigator: Molly A. Hall, MA  
Field Crew: Nick Coleman  
Survey Dates: June 23, 2016  
Person Days: 0.5  
Acres Surveyed: 2.08  
Sites Recorded: None  
Curation Facility: None

## NATURAL ENVIRONMENT

The project area is situated within the Northern Blackland Prairie Ecoregion of Texas. This ecoregion is composed of rolling to nearly level plains that formed over Upper-Cretaceous marl, chalk, limestone, and shale (Griffith et al. 2007:61-62). In a climax setting, the Northern Blackland Prairie is a tallgrass prairie, dominated by big and little bluestem, Indiangrass, and tall dropseed growing on the region's deep, fertile, "black waxy" soil, which gives the Prairie its name. Oak, hackberry, elm, ash, cottonwood, and pecan trees grow in the stream valleys.

The project is in the Wilson Creek watershed, approximately 11 miles upstream from Wilson Creek's confluence with the East Fork of the Trinity River north of Lake Lavon. The approximate southern two-thirds of the project area fall within the broad Wilson Creek floodplain, although the creek channel is about 150 m to the south. An unnamed, channelized, 1<sup>st</sup>-order, intermittent Wilson Creek tributary flows through the uplands in the project area's northeast corner. The original channel likely flowed southwest across much of the project area but, according to maps and aerials, almost nothing of the original channel remains. The study area includes the channelized stream and the remnant portion of the original stream.

The entire project area is mapped on the Upper Cretaceous-aged Austin Chalk (Bureau of Economic Geology 1991). This formation consists primarily of chalk and calcareous clay. Most of the study area is located in the uplands above the Wilson Creek floodplain, which is mapped as containing Houston Black clay with 1-3 percent slopes (Hanson and Wheeler 1969:Sheet 25). This series has a 20-cm-thick, very dark gray clay A horizon above a Bw horizon with similar color and texture (20-61 cm). These are underlain by three Bkss horizons; these grow lighter and more calcareous with depth. The soil mapped in the northern extent of the Wilson Creek floodplain is occasionally-flooded Trinity clay (Hanson and Wheeler 1969). This series features two A horizons (0-15 cm, 15-41 cm) over three Bkss horizons (41-91 cm, 91-163 cm, and 163-191 cm), almost all of which are very dark gray clay. The B horizons are distinguished by the presence of slickensides and increased calcium carbonate; the deepest of the three consists of dark olive gray clay.

## CULTURE HISTORY

A prehistoric chronology, based on Prikryl (1990), with an added historic period, for North Central Texas is presented below to provide the reader with a temporal framework for the culture history of the region.

Historic European	A.D. 1800 to Present
Protohistoric	A.D. 1600 to A.D. 1800 [Historic Native American]
Late Prehistoric	A.D. 700 to A.D. 1600
Late	A.D. 1400 to A.D. 1600
Middle	A.D. 1000 to A.D. 1400
Early	A.D. 700 to A.D. 1000
Archaic	6,000 B.C. to A.D. 700
Paleoindian	ca. 11,000 B.C. to 6,000 B.C.

The Paleoindian period is characterized as having small, nomadic bands of hunter-gatherers whose primary emphasis was the exploitation of now-extinct megafauna, such as mammoth and bison. Smaller game and plant gathering likely supplemented the Paleoindian diet (Meltzer and Bever 1995:59). As such, the archaeological record for the region consists of several distinctive styles of projectile points, such as the Clovis, Plainview, and Folsom. Currently, no Clovis points have been reported in Collin County, but numerous have been found in surrounding counties (Bever and Meltzer 2007:67-70). Subsistence patterns began to change as a general drying climatic trend swept the region, leading to extinction of many of the area's large mammals toward the end of the Paleoindian period.

The Archaic period is characterized by increased alluviation of water channels and a generally wetter environment than the previous period. This change in climate resulted in modification of Native American subsistence patterns, with broad exploitation of bottomland food resources. This, in turn, resulted in clusters of seasonal settlements along large drainages, including the Trinity River and its various forks and tributaries, and a marked increase in population density. With the advent of repeated, seasonal occupation of sites along drainages came a perceived increase in territorial constrictions among different groups in the region, with several authors citing the limited use of regional lithic resources as evidence of this trend (Skinner 1981; Prewitt 1983).

The Late Prehistoric period is interpreted as a dryer period, with a focus on procurement of faunal resources, agriculture, and food preservation. The appearance of pottery and the bow and arrow help date artifact assemblages to this period (Shafer 1977). The Protohistoric period is characterized by Native American abandonment of north central Texas in the period around 1500/1600, with almost no archaeological evidence found in the region dating to this time (Skinner 1988).

The Historic European period saw widespread Anglo settlement of north central Texas beginning in the 1830s. This expansion often resulted in brutal conflicts between settlers and nomadic bands of Native Americans (Garrett 1972:24). These early conflicts gave way to various Anglo strategies aimed at cohabitation, including peace treaties signed as early as 1843. Eventually, the

entirety of north central Texas was settled, with numerous Anglo military installations established in the region. After Texas became part of the United States in 1845, peace was short lived. The Civil War took its toll on the north central Texas population, as most of the able-bodied men left to fight for the Confederacy.

There is very little evidence of historic-era Native American occupation anywhere in the Dallas area, although historic accounts indicate that groups were present in the early 1800s. Beginning in the 1830s and continuing into the 1840s, the aboriginal inhabitants continued to play a role in the regional history. Garrett (1972:24) states, "Indian hostilities almost depopulated North Texas (of Anglo dwellers) after 1839. It dwindled to less than half." Hostilities continued until the Republic of Texas and ten Native American tribes signed the Treaty of 1843. This treaty provided the impetus for settlement of several North Central Texas counties.

Collin County was separated from Fannin County in 1846 and McKinney became the county seat (Minor 2015). The first phase of settlement in Collin County was from 1840 to 1860. Commercial farming was not important until after the Civil War, and the early settlers were essentially self-sufficient. Besides domestic plants and animals, wild animals and plants were commonly consumed, so settlers established homesteads near creeks and rivers. In 1872, the Houston and Texas Central Railway became the first major route through the county, initiating the second phase of settlement near railroad hubs. By 1870, cotton, corn, and wheat were the main cash crops. The county experiences continuous growth until the Great Depression, but, like most of the country, had recovered and was once again prospering by 1950. Post 1960, many farms and ranches turned to mechanized techniques and relied less on tenant farmers who had dominated the workforce in the 1800s and early 1900s. This led to a general decline in the county's population. Recent decades have seen the rise of light industry and the general expansion of the Dallas metropolitan area, resulting in a growing, diversified economy in Collin County. This spawned dramatic increase in the county's population, and residential communities now dominate the landscape.

### Previous Investigations

A search of Texas Archeological Sites Atlas (2016) located no NRHP properties, NRHP districts, or State Antiquities Landmarks (SALs) within a 1-mi radius of the project area. However, one archaeological site and one historical marker are located in that same radius. Site 41COL209 was recorded in 2010 by Barbara Elliott and Johnny Byers of the Collin County Archaeological Society. The site is located almost exactly 1 mi southeast of the study area, in floodplain sediments south of Wilson Creek, just downstream from its confluence with Franklin Branch. Its assemblage consisted of a lithic and bone scatter interpreted as a kill site. Abundant bison bone, two hearths, lithic debitage, and three Late Archaic (Ellis/Edgewood and Gary) dart points. The site was exposed by surficial erosion/urban runoff, and may no longer exist. The historical marker (No. 555) commemorates the location of the ghost town of Buckner, which is just north of US 380. This town, founded in 1842, was the original county seat, but was abandoned subsequent to 1848, when it was found to be too far from the county's geographic center. The Buckner Cemetery is located just west of the old town site. Two previous archaeological surveys have been conducted along US 380, which bounds the study area to the north. The first was completed in 1987 for the FWHA, but no further information was available

on TASA; the second was conducted in 2011 by Ben Fullerton of Geo-Marine, Inc. (Fullerton 2011). Both surveys failed to located cultural resources along the roadway.

The 1930 USDA Collin County Soil Map, the 1936 and 1958 General Highway maps of Collin County, and the 1960 (photorevised 1981) McKinney West, TX 7.5' USGS topographic map were reviewed prior to fieldwork. This was done to determine the likelihood of encountering historic structures or features in the study area. None of the historic maps show any structures in the study area, with the nearest having been a little to the east, across a now-absent street (Figure 2). The original course of the intermittent tributary that flows through the study area is clearly visible on the 1930 map.

Aerial photographs from 1952 to the present were reviewed as well. By 1952, the course of the study area stream had been rerouted to follow its current channel (Figure 3a). By 1968, plowing had almost completely eradicated the old stream through a fenced, plowed area to the south, leaving only a thin band of timber along the old channel adjacent to the rerouted channel (Figure 3b). A 1995 aerial shows a significant amount of disturbance west of the channel, although the cause of this is impossible to determine (Figure 3c). A more recent aerial from 2014 shows the configuration of the larger project area changed, with the fenced area south of the study area stream gone, leaving one expanse of plowed field (Figure 3d). West of the old channel, it appears that dirt has been mounded or perhaps excavated; this may be related to the disturbance seen on the 1995 aerial.

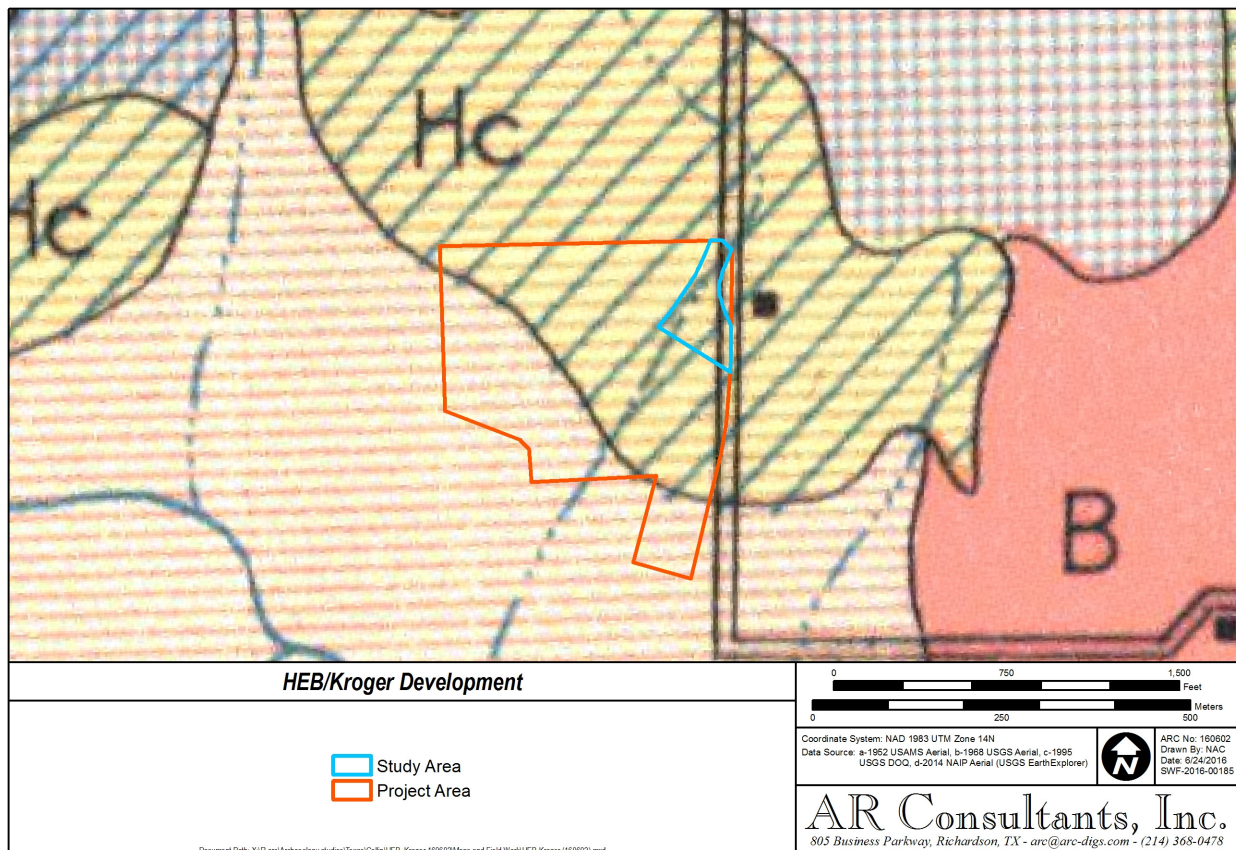


Figure 2. The project area and study area shown on a 1930 soil map.

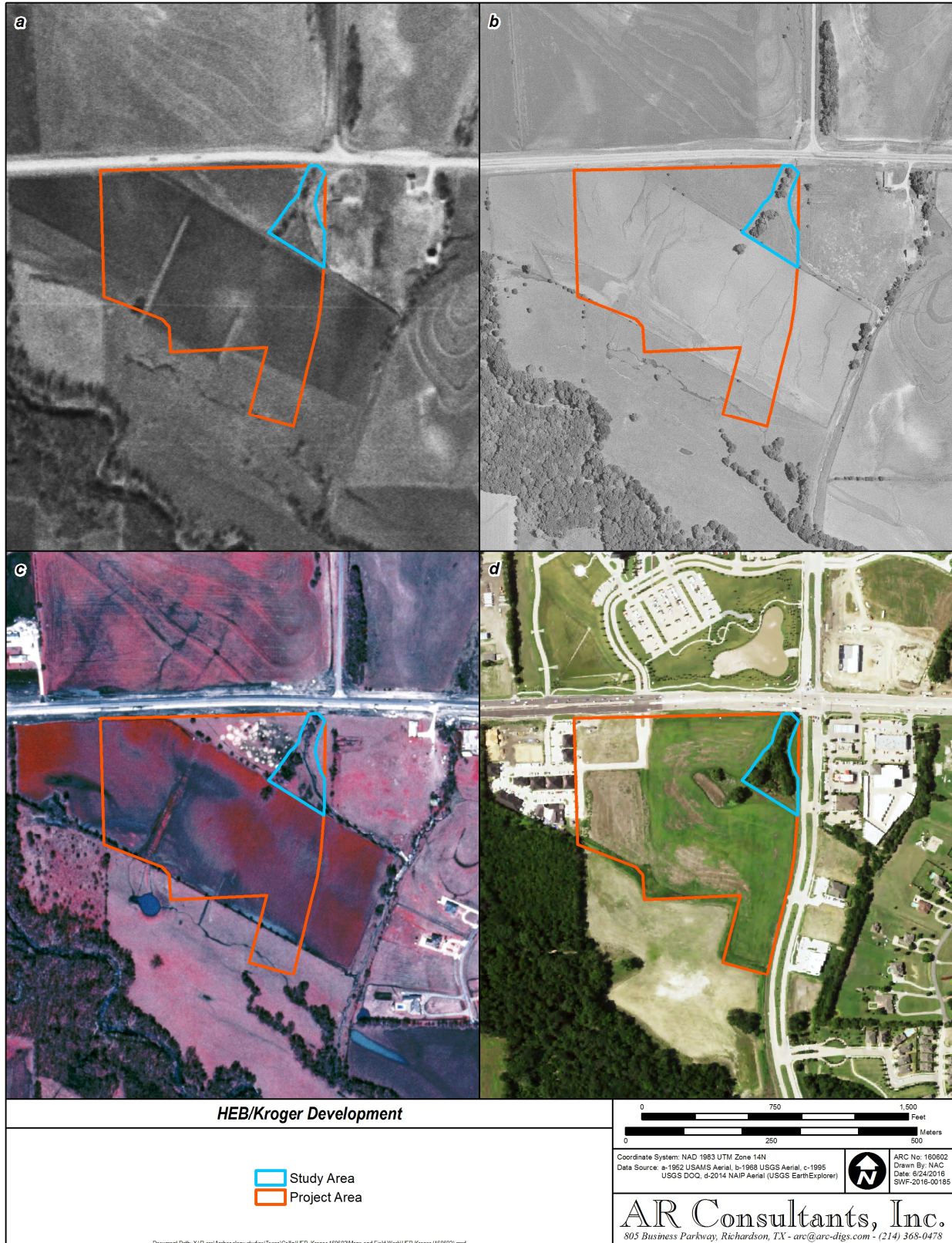


Figure 3. The project area and study area shown on aerial photographs from 1952 (a), 1968 (b), 1995 (c), and 2014 (d).

## RESEARCH DESIGN & METHODOLOGY

### Research Design

Based on the research conducted prior to the survey, two hypotheses were developed. First, it was hypothesized that there is fairly limited potential for encountering prehistoric archaeological sites in the study area constituting the USACE's jurisdiction. Only approximately half of the current tributary channel constitutes the original channel, the rest having been rerouted to flow away from the fertile floodplain soil to the south, which has been farmed since at least the mid-20<sup>th</sup> century. Even the original stream course features fairly low potential. Setting aside the extensive plowing that has no doubt affected the ground surface right up to the channel margin, the stream likely constitutes little more than an upland swale that carries runoff to the larger Wilson Creek floodplain. Accordingly it would only have carried water during rainfall or occasional flood events. As such, prehistoric inhabitants would probably have eschewed this area in favor of elevations adjacent to Wilson Creek a short way to the south.

The second hypothesis addresses the potential for encountering historic sites, which was determined to be decidedly low. This is due to the fact that, according to historic maps and aerials, no structures were ever built within the study area. If structures had been built and demolished before the 1930s, when the earliest maps were drafted, the structural remnants would probably have been entirely removed and/or profoundly disturbed by the half-century of plowing that had been carried out in the latter half of the 1900s. Accordingly the only historic resources thought to be likely in the study area would be ephemeral historic trash scatters along roadways or drainages.

### Methodology

Survey was conducted within the 2.08-acre study area in accordance with the minimum standards set forth by the THC (n.d.). Field personnel walked the entire length of the wooded channelized and remnant streams, examining the banks, and making notes about the ground exposure, drainages, soil types, vegetation, and disturbance. An additional transect was walked parallel to the streams on the adjacent cleared areas. Shovel tests were excavated at intervals of approximately 100 m. They averaged 30 cm in diameter. Clay fill from shovel tests was inspected visually and broken into smaller chunks in order to determine if cultural materials were present. Any sandy or loamy soils were screened through ¼" wire mesh screens. Soil matrices were described on the basis of composition, texture, and color. The Munsell Soil Color Chart (2009) was used to identify soil colors. Photographs were taken during the survey using a 16-megapixel, GPS-equipped, digital camera. Shovel test and project boundary locations were marked with a handheld GPS receiver.

## RESULTS

This chapter is divided into two sections. The first describes the project area’s natural setting along with results of the pedestrian survey. The second section presents conclusions derived from the survey. Shovel tests are described generally in the text, but are detailed in Table 1.

### Survey Results

Survey began west of where the intermittent tributary exits a culvert under US 380 (Figure 4). At this point, the stream was approximately 1.25 m wide and 35 cm deep, with 20 cm of standing water. Abundant trash was present in and around the channel, likely having been dumped or thrown from the adjacent roadway. Vegetation adjacent to the stream included cottonwood, bois d’arc, pecan, hackberry, and mesquite trees, with an abundant understory of weeds and greenbrier. West of the wooded channel, vegetation consisted of knee-high remnants of the wheat crop that used to occupy this field, along with prairie grasses and weeds (Figure 5). Ground visibility was approximately 20-40 percent. Shovel test 1 was placed near the northern study area boundary and exposed 60 cm of very dark gray clay over calcareous dark gray clay subsoil (Figure 6, Table 1). This profile is generally consistent with the Houston Black soil series, confirming that the stream is essentially an upland swale. The same profile was seen in all subsequent shovel tests.

Survey continued south along the western edge of the tree line. The original stream channel was not apparent at all on the landscape, suggesting that it may have been filled in as part of the channelization effort. Terrain fell slightly in this area, indicating that the old stream course may now simply constitute a low spot where water pools during heavy rain fall. Shovel test 2 was excavated just inside the tree line and encountered a few fragments of crushed rock on and just below the surface. The area between the two wooded streams featured unmaintained prairie grasses that were as high as 1 m. Shovel tests 3 was placed in this grassy area, east of the tree line that marks the original channel, while shovel test 4 was excavated west of the rerouted stream. At this point, the stream was broader, measuring 1.5-2 m wide and 40-50 cm deep, with 30-40 cm of standing water (Figure 7). The area east of the stream was unimproved pasture (Figure 8). If it was ever under cultivation, this took place less recently than was the case west of the stream. Shovel tests 5 and 6 were placed in this area. They, like all shovel tests excavated during this project, were negative.

Table 1. Shovel Test Descriptions.

ST#	Depth (cm)	Description	Comments/Artifacts
1	0-60 60-90	very dark gray (10YR3/1) clay dark gray (10YR4/1) calcareous clay	Negative
2	0-52 52-85	very dark gray (10YR3/1) clay, with some crushed rock on surface dark gray (10YR4/1) calcareous clay	Negative
3	0-60 60-95	very dark gray (10YR3/1) clay dark gray (10YR4/1) calcareous clay	Negative
4	0-55 55-90	very dark gray (10YR3/1) clay dark gray (10YR4/1) calcareous clay	Negative
5	0-55 55-80	very dark gray (10YR3/1) clay dark gray (10YR4/1) calcareous clay	Negative
6	0-50 50-75	very dark gray (10YR3/1) clay dark gray (10YR4/1) calcareous clay	Negative





Figure 4. The tributary channel, as seen looking south from the culvert under US 380.



Figure 5. The area west of the tributary, which was a cultivated field, now grown fallow. View is to the southwest.

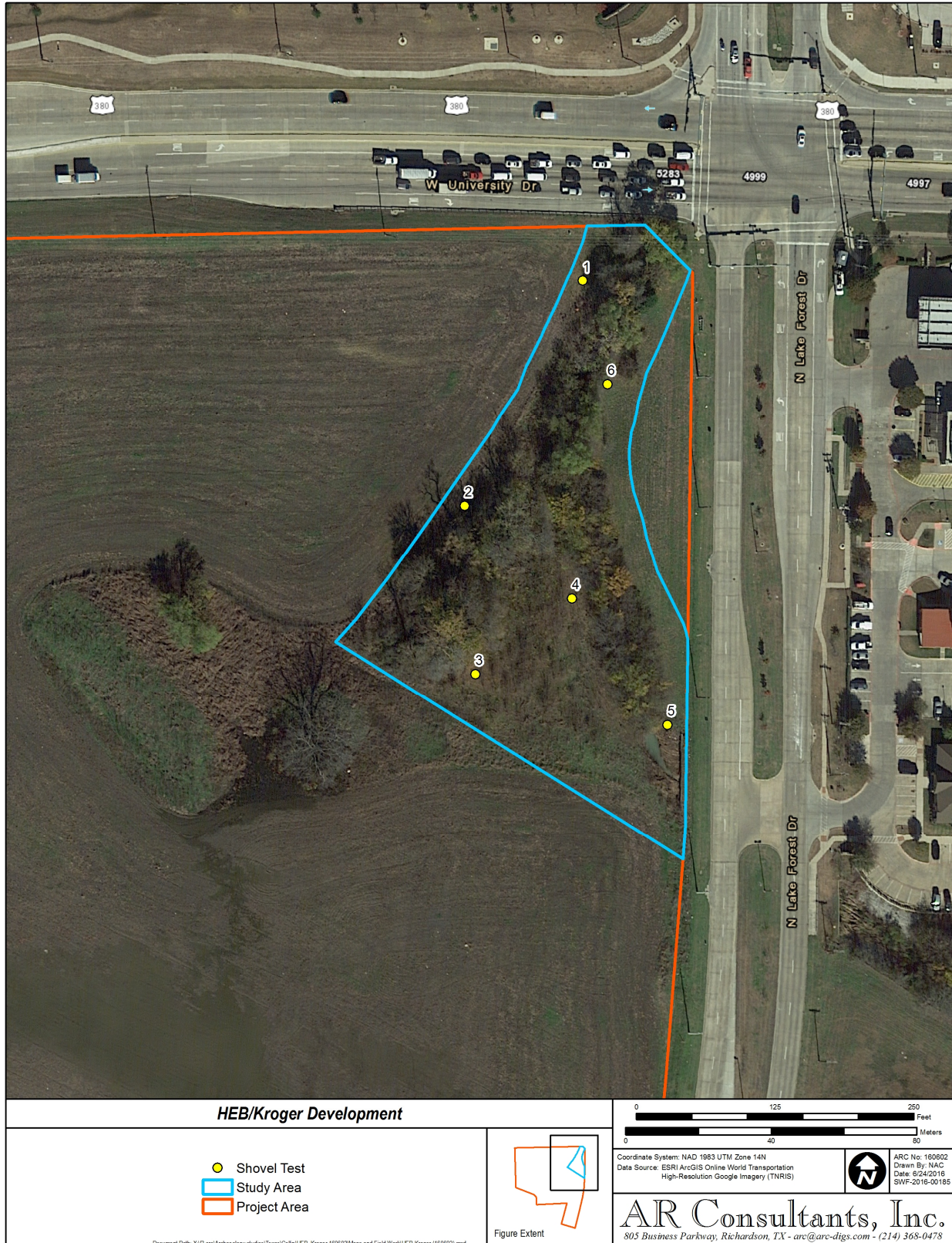


Figure 6. Shovel tests excavated within the study area shown on recent high-resolution orthoimagery, courtesy of Google.



Figure 7. The channelized portion of the intermittent stream, as seen looking north along the channel near the location of shovel test 5.



Figure 8. Improved pasture east of the stream, as seen looking north. The shovel marks the approximate location of shovel test 5.

During the map and aerial photo review that was conducted prior to fieldwork, there was some question as to what the disturbance west of the old stream channel might be. Upon visiting this area, field personnel learned that it was a large dirt mound (Figure 9). It most likely constitutes a pile of soil that was cleared during whatever disturbance was documented on aerial photos from 1995 (Figure 3c).



Figure 9. The dirt mound west of the old channel, as seen looking southeast. The machinery in the foreground is a boring rig being used by environmental scientists working at the development site.

### Conclusions

No cultural resources were documented in the study area, in shovel tests, in the stream channel, or on the exposed ground surface. Such results are in keeping with the predictions put forth in the research design of this report. It is likely that the stream's paltry supply of water would have made it an undesirable location for prehistoric settlement. Likewise, its location along a stream in a farmed field makes it an unlikely location for historic occupation, which is supported by the absence of structures on historic maps and aerials of the area.

## **RECOMMENDATIONS**

The purpose of this investigation was to determine if significant cultural resources are present in the USACE's jurisdictional area within the proposed HEB/Kroger development tract. No cultural resources were found during the survey. Based on these results, ARC recommends that further cultural resource investigations for this project are unwarranted, and requests that the USACE and THC concur with this conclusion. However, if buried cultural materials are discovered during construction, ARC recommends that the Archeology Division of the THC should be notified.

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