



INDEX OF TEXAS ARCHAEOLOGY

Open Access Gray Literature from the Lone Star State

Volume 2019


Article 74

2019

Cultural Resources Investigations for the CPS Energy 96th Street Riser Installation Project, San Antonio, Bexar County, Texas

Rhiana D. Ward

Follow this and additional works at: <https://scholarworks.sfasu.edu/ita>

 Part of the [American Material Culture Commons](#), [Archaeological Anthropology Commons](#), [Environmental Studies Commons](#), [Other American Studies Commons](#), [Other Arts and Humanities Commons](#), [Other History of Art, Architecture, and Archaeology Commons](#), and the [United States History Commons](#)

[Tell us how this article helped you.](#)

Cite this Record

Ward, Rhiana D. (2019) "Cultural Resources Investigations for the CPS Energy 96th Street Riser Installation Project, San Antonio, Bexar County, Texas," *Index of Texas Archaeology: Open Access Gray Literature from the Lone Star State*: Vol. 2019, Article 74. ISSN: 2475-9333
Available at: <https://scholarworks.sfasu.edu/ita/vol2019/iss1/74>

This Article is brought to you for free and open access by the Center for Regional Heritage Research at SFA ScholarWorks. It has been accepted for inclusion in Index of Texas Archaeology: Open Access Gray Literature from the Lone Star State by an authorized editor of SFA ScholarWorks. For more information, please contact cdsscholarworks@sfasu.edu.

Cultural Resources Investigations for the CPS Energy 96th Street Riser Installation Project, San Antonio, Bexar County, Texas

Creative Commons License



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

**CULTURAL RESOURCES INVESTIGATIONS FOR THE CPS ENERGY
96TH STREET RISER INSTALLATION PROJECT,
SAN ANTONIO, BEXAR COUNTY, TEXAS**

FINAL REPORT (Redacted)

Prepared for:

CPS Energy
145 Navarro Street
San Antonio, Texas 78205

Prepared by:

Jason M. Whitaker



RABA-KISTNER ENVIRONMENTAL, INC.

12821 Golden Lane
San Antonio, Texas 78249

Principal Investigator

Rhiana D. Ward

Texas Antiquities Committee Permit Number 8832

Cultural Resources Report No. 19-010

ASF19-001-17

December 26, 2019

MANAGEMENT SUMMARY

Raba Kistner Environmental, Inc. (RKEI), was contracted by CPS Energy (CLIENT) to conduct cultural resources monitoring investigations for the CPS Energy (CPSE) 96th Street Riser Installation Project in southern San Antonio, Bexar County, Texas. The project involved the installation of a 3-inch riser and a secondary enclosure within the 96th Street right-of-way (ROW). Given that the project took place within a publically owned ROW, and because CPSE is a political subdivision of the State of Texas, the project fell under the jurisdiction of Chapter 35 of the Unified Development Code of the City of San Antonio, as well as the Antiquities Code of Texas. Cultural resources investigations for the project were conducted on April 10 and 11, 2019. Rhiana D. Ward served as Principal Investigator and Project Manager for the duration of the project, and all fieldwork was completed by Project Archaeologist Jason M. Whitaker. All work was conducted in accordance with the standards set forth by the Council of Texas Archeologists and adopted by the Texas Historical Commission.

The APE encompassed approximately 200 feet (61 meters [m]) of alignment along the southern ROW of 96th Street; however, approximately 41 feet (12 m) of the Area of Potential Effects (APE) was excavated using directional boring excavations to prevent disturbance to two degrading asphalt drives that intersected the trench alignment. The remaining 159 feet (48 m) of APE alignment was excavated using open cut trenching. Trench excavations measured 20 inches (51 centimeters [cm]) wide and 40 inches (102 cm) deep on average. A minimal number of cultural materials were observed throughout monitoring investigations, but were limited to the upper stratigraphic layers and consisted predominately of modern refuse. Disturbances within the APE included existing underground utilities and road construction activities.

Overall, no significant deposits or features were documented during monitoring excavations of the CPSE 96th Street Riser Installation Project, and no evidence of unmarked burials or human remains were observed. Furthermore, no cultural materials or significant cultural materials were identified that may be associated with previously recorded site 41BX2221. As such, **RKEI** recommends site 41BX2221 as ineligible within the given APE due to a lack of cultural materials or deposits. Given this conclusion, no significant cultural deposits were impacted by the project and **RKEI** recommends no further archaeological investigations for the current APE. However, should additions be made to the project area, it is recommended that additional testing be conducted to determine the extent and significance of cultural

deposits beyond the currently defined boundaries. All field records generated by this project will be permanently curated at the Center for Archaeological Research at the University of Texas at San Antonio.

TABLE OF CONTENTS

CHAPTER 1. INTRODUCTION	1
Project Description and Area of Potential Effects	1
CHAPTER 2. ENVIRONMENTAL SETTING	4
Geology	4
Soils	4
Flora and Fauna.....	4
South Texas Climate.....	6
CHAPTER 3. CULTURAL CONTEXT.....	7
Paleoindian Period	7
Archaic Period	8
Early Archaic	9
Middle Archaic.....	9
Late Archaic.....	10
Late Prehistoric Period.....	10
Historic Period.....	12
Previous Archaeological Investigations.....	13
CHAPTER 4. METHODS OF INVESTIGATION	16
CHAPTER 5. RESULTS OF INVESTIGATIONS	17
CHAPTER 6. SUMMARY AND RECOMMENDATIONS.....	25
REFERENCES CITED.....	27

LIST OF FIGURES

Figure 1-1.	Project Area Location in San Antonio, Bexar County, Texas.....	2
Figure 1-2.	Overview of the APE.	3
Figure 2-1.	Soils mapped within the APE.	5
Figure 3-1.	Archaeological surveys and site locations within 0.5 mile (0.8 km) of the APE.	15
Figure 5-1.	Cultural resources monitoring results.	19
Figure 5-2.	Overview of eastern APE trench excavations, facing west.	20
Figure 5-3.	Average soil profile of the eastern APE, facing south.....	20
Figure 5-4.	Overview of central APE trench, facing west.....	21
Figure 5-5.	Central APE trench profile, facing south.....	21
Figure 5-6.	Disturbance near the eastern end of the central APE trench, facing northeast.	22
Figure 5-7.	Example of cultural materials documented within the central APE trench.	22
Figure 5-8.	Overview of the western APE excavations, facing southwest.....	23
Figure 5-9.	Average soil profile of the western APE excavation, showing existing utility line, facing east. 23	
Figure 5-10.	Cultural materials documented within the western APE trench.....	24

LIST OF TABLES

Table 3-1.	Documented cultural resources within 0.5 mile (0.8 km) of the APE.....	14
------------	--	----

CHAPTER 1. INTRODUCTION

Raba Kistner Environmental, Inc. (RKEI), was contracted by CPS Energy (**CLIENT**) to perform cultural resources investigations for the CPS Energy (CPSE) 96th Street Riser Installation Project in southern San Antonio, Bexar County, Texas (**Figure 1-1**). The purpose of the investigations was to identify any buried cultural deposits within the limits of the undertaking and, if possible, assess their significance and eligibility for inclusion in the National Register of Historic Places (NHRP) and for formal designation as State Antiquities Landmarks (SAL). This report details the findings of the investigations.

Given that the project took place within a publically owned right-of-way (ROW), and because CPSE is a political subdivision of the State of Texas, the project was subject to review under the jurisdiction of Chapter 35 of the Unified Development Code (UDC) of the City of San Antonio (COSA) (Article VI, Historic Preservation and Urban Design, COSA UDC), as well as the Antiquities Code of Texas (ACT) (Texas Natural Resources Code, Title 9, Chapter 191). These legislations call for the assessment of all improvement activities that have a potential to disturb historically significant resources and significant subsurface deposits on lands owned by the State. The UDC is regulated by the COSA Office of Historic Preservation (OHP), while the ACT is administered by the Texas Historical Commission (THC).

Project Description and Area of Potential Effects

The CPSE 96th Street Riser Installation Project consisted of approximately 200 feet (61 meters [m]) of trench alignment within the southern 96th Street ROW at its intersection with Buto Street in southern San Antonio, Texas. The project was located within a highly developed urban setting, with the S.T.E.M. Early College High School Campus to the north and the Harlandale Memorial Stadium to the northeast. A series of commercial buildings were located immediately south of the project area, in addition to Stinson Airfield and its associated facilities and airstrips. The project was located on the *Southton (2998-132) U.S. Geological Survey (USGS)* topographic quadrangle map (**Figure 1-2**), and the San Antonio River was located 0.88 mile (1.4 kilometer [km]) to the northeast. The Area of Potential Effects (APE) for the CPSE 96th Street Riser Installation Project consisted of approximately 200 feet (61 m) of total alignment that measured 20 inches (51 centimeters [cm]) wide and 40 inches (102 cm) deep on average; however, approximately 41 feet (12 m) of the alignment was excavated using directional boring methods. As such, the maximum area of disturbance for the APE encompassed approximately 39.1 cubic yards of soil, or less than 1 acre.

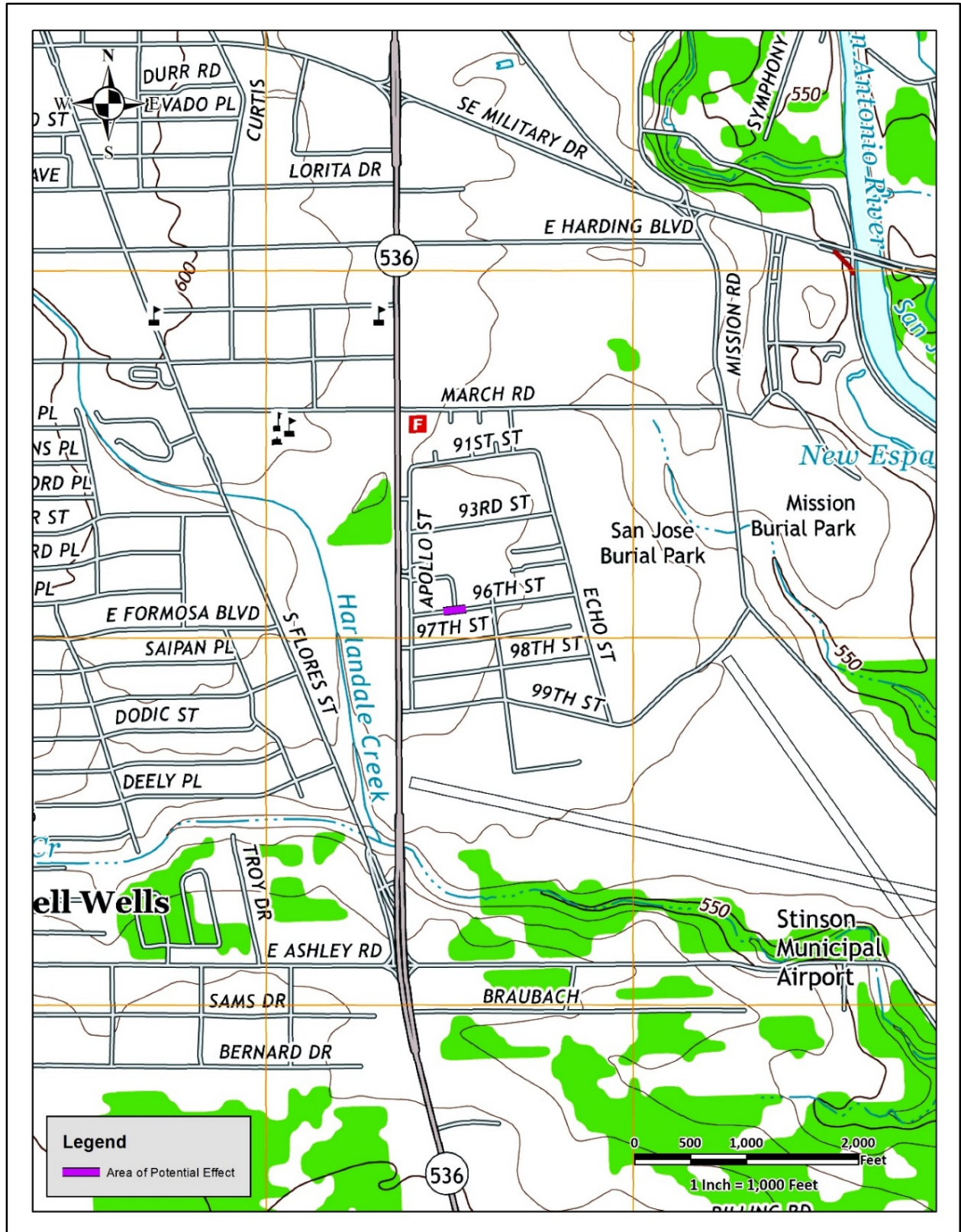


Figure 1-2. Overview of the APE.

CHAPTER 2. ENVIRONMENTAL SETTING

The APE is located within the Blackland Prairie ecoregion, which is an area of low topographic relief and poor drainage, prone to frequent flooding (Collins 1995). The Blackland Prairie ecoregion is characterized by gently undulating topography and is generally defined as grasslands punctuated by riparian bands along creeks, rivers, and other drainages (Griffith et al. 2019). Creation of the Blackland Prairies occurred during the late Tertiary, with the erosions of soils on the Edwards Plateau. These soils were deposited by eolian and colluvial processes across an existing, eroded parent material of the Gulf Coastal Plain, creating a mix of deep Tertiary and Quaternary calcareous clay soils (Black 1989a).

Geology

The APE is underlain entirely by Fluvial terrace deposits (Qt) (United States Geological Survey 2019). The deposits consist of Pleistocene and Holocene sands, silts, clays, and gravels in various proportions. Gravel percentages within the terrace deposits vary with higher terraces containing more gravels than the lower terraces. The terrace deposits are locally indurated with calcium carbonate, which illustrates their great antiquity.

Soils

Soils mapped within the APE consist entirely of Lewisville silty clay (LvA) with 0 to 1 percent slopes that are not frequently flooded and are well drained (**Figure 2-1**). Lewisville soils formed on stream terraces from calcareous clayey alluvium derived from mudstone (Natural Resources Conservation Services 2019).

Flora and Fauna

The APE is located near the intersection of the Balconian and Taumaulipan biotic provinces. Floral and faunal resources consist of a mix of species from the Austroriparian, Taumaulipan, Chihuahuan, Kansan, Balconian, and Texan biotic provinces. There are three major geographic regions nearby the Project Area: the Edwards Plateau, the Blackland Prairie, and the South Texas Plains. Trees, plants, and grasses in this region include cedar (*Juniperus ashei*), live oak (*Quercus fusiformis*), Texas mountain laurel (*Sophora secundiflora*), mesquite (*Prosopis glandulosa*), prickly pear (*Opuntia* sp.), agarita (*Berberis trifoliolata*), cat

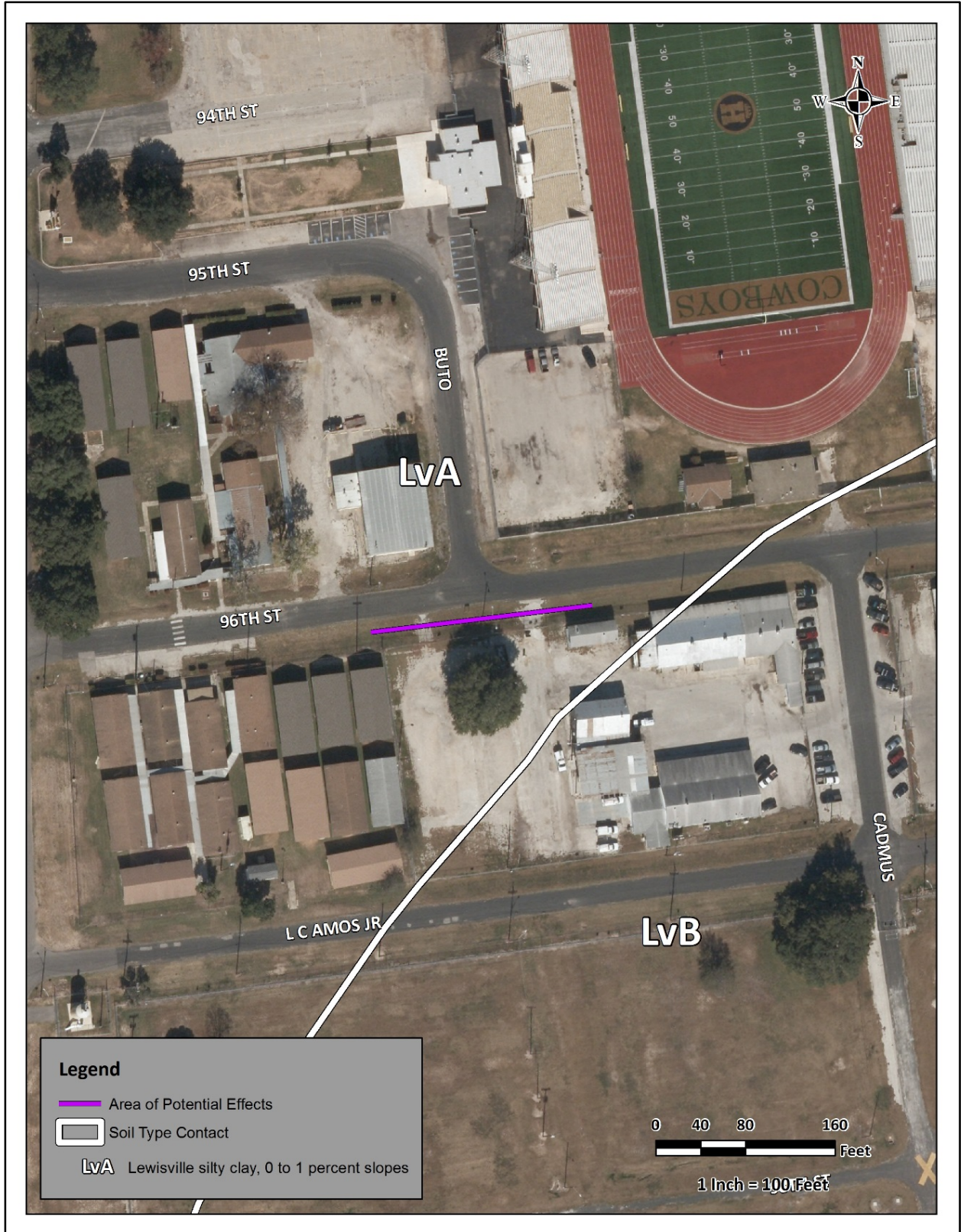


Figure 2-1. Soils mapped within the APE.

claw (*Smilax bona-nox*), mustang grape (*Vitis mustangensis*), sotol (*Dasyilirion texanum*), and Spanish dagger (*Yucca sp.*).

The fauna that inhabit the south-central Texas region includes at least 95 bird and 29 mammal species. The area also contains a wide array of reptiles, fish, and amphibians. Mammal species noted to have inhabited the area associated with the APE include white-tailed deer (*Odocoileus virginianus*), nine-banded armadillo (*Dasypus novemcinctus*), Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), cottontail rabbit (*Sylvilagus audubonii*), feral hog, domestic and feral cat, and squirrel.

South Texas Climate

The climate in south-central Texas is humid subtropical with hot and humid summers. From May through September, hot weather dominates with the cool season beginning around the first of November and extending through March. Winters are typically short and mild with little precipitation. San Antonio averages only 33 inches of rain per year (Southern Regional Climate Center 2019; based on monthly averages from 1980 to 2010). Monthly temperature averages range between 52°F in January to 85°F in August.

CHAPTER 3. CULTURAL CONTEXT

The APE is located at the cusp of Central Texas and South Texas archaeological regions (Turner and Hester 1999). Based on extensive research conducted by Black (1989b), Collins (1995, 2004), Hester (2004), Johnson et al. (1962), Prewitt (1981, 1985), Sorrow et al. (1967), Suhm (1957, 1960), Suhm et al. (1954), and Weir (1976), Central Texas has a well-established chronological sequence beginning 12,000 years ago. The sequence for South Texas is less defined, though the project area likely shares many of the attributes identified for Central Texas. Nonetheless, the chronological sequence of Bexar County and the vicinity is divided into four cultural periods, spanning approximately 11,500 years. Archaeologists have divided the occupation of the region into four principal periods and several sub-periods: Paleoindian (11,500–8800 B.P.), Archaic (8000–1200 B.P.), Late Prehistoric (1200–400 B.P.), and Historic (400 B.P. to present). The periods are characterized by changes in climatic conditions, distinct vegetation types and structure, and concomitant adaptive changes by human populations in hunting and gathering technologies and strategies, general material culture, and at the tail end of the cultural sequence, the arrival of non-indigenous populations.

Paleoindian Period

The oldest cultural materials found in the region date to the Paleoindian period. The period spans roughly from 11,500–8800 B.P. (Collins 1995, 2004). The Aubrey site in Denton County has one of the earliest occupations, with radiocarbon assays dating to between $11,542 \pm 11$ B.P. and $11,590 \pm 93$ B.P. (Bousman et al. 2004:48). Paleoclimatic proxy measures suggest that a cooler climate with increased precipitation was predominant during the Late Pleistocene (Mauldin and Nickels 2001; Toomey et al. 1993), the later portion of the period.

Initial reconstructions of Paleoindian adaptations typically viewed these hunter-gatherers as traversing extreme distances in pursuit of now extinct mega-fauna such as mammoth and mastodon. While these Paleoindian populations did exploit the Late Pleistocene mega-fauna when it was accessible, a number of faunal assemblages from a larger number of sites indicate that the Paleoindian diet was more varied and consisted of a wide range of resources, including small game and plants. The Lewisville (Winkler 1982) and the Aubrey sites (Ferring 2001) produced faunal assemblages that represented a wide range of taxa, including large, medium, and small species. Information on the consumption of plant resources during the

Paleoindian period is lacking. Bousman et al. (2004) reported that the late Paleoindian component at the Wilson-Leonard site reflected the exploitation of riparian, forest, and grassland species. Analysis of Paleoindian skeletal remains indicates that the diets of the Paleoindian and later Archaic hunter-gatherers may have been similar (Bousman et al. 2004; Powell and Steele 1994).

The early portion of the Paleoindian period was characterized by the appearance of Clovis and Folsom fluted projectile points that were used for hunting mega-fauna. Typical projectile points produced at sites with occupations dating to the later portion of the Paleoindian period included the Plainview, Dalton, Angostura, Golandrina, Meserve, and Scottsbluff types. Meltzer and Bever (1995) have identified 406 Clovis sites in Texas. One of the earliest, 41RB1, yielded radiocarbon assays that put the maximum age for the Paleoindian component at $11,415 \pm 125$ B.P. (Bousman et al. 2004:47).

Sites in Bexar County that contain Paleoindian components include St. Mary's Hall (Hester 1978, 1990), Pavo Real (Collins et al. 2003), the Richard Beene site (Thoms et al. 1996; Thoms and Mandel 2006) and 41BX1396 (Tomka 2012). St. Mary's Hall, 41BX229, was first encountered in 1972 during the construction of a house just outside the school's property. The Pavo Real site, 41BX52, is located along Leon Creek in northwest Bexar County. The site was first documented in 1970 and has been investigated several times over the past 40 years (Collins et al. 2003). The Richard Beene site, 41BX831, is located along the Medina River in southern Bexar County (Thoms et al. 1996). Site 41BX1396 is located in Brackenridge Park in San Antonio, and was encountered during installations for lighting in 2010. Dating of organic samples indicated that occupation at the site occurred as early as 10,490–10,230 B.P.

Archaic Period

The Archaic period dates between ca. 8800 to 1200 B.P. It is divided into three subperiods: Early, Middle, and Late. During the Archaic, mobility strategies may have shifted to more frequent short distance movements that allowed the exploitation of seasonal resource patches. The intermittent presence of bison in parts of Texas, combined with changes in climatic conditions and the primary productivity of the plant resources may have contributed to shifts in subsistence strategies and associated technological repertoire. When bison was not present in the region, hunting strategies focused on medium to small game along with continued foraging for plant resources. When bison was available, hunter-gatherers targeted the larger-bodied prey on a regular basis.

Early Archaic

The Early Archaic spans from 8800 to 6000 B.P. (Collins 1995, 2004). Projectile point styles characteristic of the Early Archaic includes Angostura, Early Split Stem, Martindale, and Uvalde (Collins 1995, 2004). The Early Archaic climate was drier than the Paleoindian period and witnessed a return to grasslands (Bousman 1998). Mega-fauna of the Paleoindian period could not survive the new climate and ecosystems, therefore eventually dying out. Early Archaic exploitation of medium to small fauna intensified.

The excavations at the Wilson-Leonard site (41WM235) produced a wealth of cultural materials representative of a lengthy period in regional prehistory. The projectile point assemblages from the site indicate that the lanceolate Paleoindian point forms continue from the Paleoindian into the Early Archaic (Angostura). However, relatively quickly during the Early Archaic, they are replaced by corner- and basally-notched and shouldered forms (Early Triangular, Andice, Bell) that quickly become the dominant points tipping the atlatl-thrown darts. In addition, the uses of small to medium hearths similar to the previous period were noted. The appearance of earth ovens suggests another shift in subsistence strategies. The earth ovens encountered at the Wilson-Leonard site were used to cook wild hyacinth along with aquatic and terrestrial resources (Collins et al. 1998). Analyses of Early Archaic human remains encountered in Kerr County (Bement 1991) reveal diets low in carbohydrates in comparison to the Early Archaic populations found in the Lower Pecos region.

Middle Archaic

The Middle Archaic sub-period spans from 6000 to 4000 B.P. (Collins 1995, 2004; Weir 1976). Archaeological data indicates that there appeared to be a population increase during this time. The climate was gradually drying leading to the onset of a long drought period. Changes to the demographics and cultural characteristics were likely in response to the warmer and more arid conditions. Projectile point styles characteristic of this sub-period include Bell, Andice, Calf Creek, Taylor, Nolan, and Travis.

Subsistence during the Middle Archaic saw an increased reliance on nuts and other products of riverine environments (Black 1989b). The increase of burned rock middens during the Middle Archaic represented the increased focus on the use of plant resources (Black 1989b; Johnson and Goode 1994). Little is known about burial practices during the Middle Archaic. An excavation in a Uvalde County sinkhole (41UV4) contained 25–50 individuals (Johnson and Goode 1994:28).

Late Archaic

The Late Archaic spans from 4000 to 1200 B.P. (Collins 1995, 2004). It is represented by the Bulverde, Pedernales, Kinney, Lange, Marshall, Williams, Marcos, Montell, Castroville, Ensor, Frio, Fairland, and Darl projectile points. The early part of the Late Archaic exhibited fluctuations in both temperature and rainfall. There appears to have been an increase in population at this time (Nickels et al. 1998).

Some researchers believe that the use of burned rock middens decreased during the Late Archaic. Some research has challenged this notion (Black and Creel 1997; Mauldin et al. 2003). Johnson and Goode (1994) discuss the role of burned rock middens in relation to acorn processing.

Human remains from burials related to the Late Archaic in Central and South Texas suggest the region saw an increase in population. This increase may have prompted the establishment of territorial boundaries which resulted in boundary disputes (Story 1985). Human remains dating to this sub-period have been encountered near the Edwards Plateau.

Late Prehistoric Period

The Late Prehistoric period begins ca. 1200 B.P. (Collins 1995, 2004), and appears to continue until the beginning of the Protohistoric period (ca. A.D. 1700). The term Late Prehistoric is used in Central and South Texas to designate the time following the end of the Archaic period. A series of traits characterizes the shift from the Archaic to the Late Prehistoric period. The main technological changes were the shift to the bow and arrow and the introduction of pottery. The Late Prehistoric period is divided into two phases: the Austin phase and the Toyah phase.

At the beginning of this period, environmental conditions were deemed to be warm and dry. Moister conditions appear after 1000 B.P. (Mauldin and Nickels 2001). Subsistence practices appeared similar to the Late Archaic. Projectile points associated with the Austin phase include the Scallorn and Edwards types. The Toyah phase is characterized by the prominence of the Perdiz point (Collins 1995, 2004).

Most researchers concur that the early portion of the Late Prehistoric period saw a decrease in population density (Black 1989b:32). Radiocarbon dates from some sites have indicated that the middens were utilized during the Late Prehistoric. Some archaeologists assert that the peak of midden use was after A.D. 1 and into the Late Prehistoric (Black and Creel 1997:273). Radiocarbon dates from Camp Bowie middens provide evidence that supports Black and Creel's arguments that burned rock middens were a primarily Late Prehistoric occurrence (Mauldin et al. 2003).

Beginning rather abruptly at about 650 B.P., a shift in technology occurred. This shift is characterized by the introduction of blade technology, the first ceramics in Central Texas (bone-tempered plainwares), the appearance of Perdiz arrow points, and alternately beveled bifaces (Black 1989b:32; Huebner 1991:346). Prewitt (1981) suggests this technology originated in north-central Texas. Patterson (1988), however, notes that the Perdiz point was first seen in southeast Texas by about 1350 B.P., and was introduced to west Texas some 600 to 700 years later.

Early ceramics in Central Texas (ca. A.D. 1250 to 1300) are associated with the Toyah phase of the Late Prehistoric and are referred to as Leon Plain ware. The Leon Plain ceramic types are undecorated, bone-tempered bowls, jars, and ollas with oxidized, burnished, and floated exterior surfaces (Ricklis 1995). There is notable variation within the type (Black 1986; Johnson 1994; Kalter et al. 2005). This variation can be attributed to differences in manufacturing techniques and cultural affiliation. Analysis of residues on ceramic sherds suggests that vessels were used to process bison bone grease/fat, mesquite bean/bison bone grease and deer/bison bone grease (Quigg et al. 1993).

The return of bison to South and Central Texas during the Late Prehistoric resulted from a drier climate in the plains located to the north of Texas and increased grasses in the Cross-Timbers and Post Oak Savannah in north-central Texas (Huebner 1991). The increased grasses in the two biotas formed the "bison corridor" along the eastern edge of the Edwards Plateau and into the South Texas Plain (Huebner 1991:354–355). Rock shelter sites, such as Scorpion Cave in Medina County (Highley et al. 1978) and Classen Rock Shelter in northern Bexar County (Fox and Fox 1967), have indicated a shift in settlement strategies (Skinner 1981). Burials encountered that dated to this period often reveal evidence on conflict (Black 1989b:32).

Historic Period

The beginnings of San Antonio came about with the establishment of Mission San Antonio de Valero in 1718. Fray Antonio de San Buenaventura y Olivares briefly visited the site several years prior, and petitioned to set up a mission at the headwaters of the San Antonio River to act as a waypoint in the journey to East Texas. The Marques de Valero, Viceroy of New Spain, granted Olivares' request (de la Teja 1995). The mission, presidio, and villa were first established on the San Pedro Creek, the "first spring" of the San Antonio River. Mission Valero occupied at least one other location on the east side of the San Antonio River before it was moved in 1724 to its final location.

Four days after Mission Valero was founded, Presidio de Bexar was established on May 5, 1718. The presidio was to house the Spanish soldiers who had come along with the expedition to found the Mission. Typically, the families that followed the soldiers lived just outside the presidio.

Two years later, in 1720, Mission San José y San Miguel de Aguayo was established on the opposite bank of the San Antonio River, and to the south of Mission Valero and Presidio San Antonio de Bexar. This mission was established to help serve native groups that did not want to reside at Mission Valero because they were not on friendly terms with groups already living there. The original location of Mission San José was along the east bank of the San Antonio River, approximately three leagues from Mission Valero. The mission was then moved to the opposite bank sometime between 1724 and 1729, and relocated to its present site during the 1740s due to an epidemic (Scurlock et al. 1976:222).

In 1722, just two years after Mission San José was founded, Mission San Francisco Xavier de Nàjera was established. The mission was to serve a group of 50 Ervipiami families that came from the Brazos River area (Schuetz 1968:11). Mission San Francisco Xavier de Nàjera was located on or near the present site of Mission Concepción. The mission was unsuccessful due to a lack of funding. An attempt was made to make the mission a sub-mission of Valero, but this failed as well (Habig 1968:78-81). Its doors closed in 1726 (Schuetz 1968:11). Ivey (1984:13) argued that the closure of the mission was due to the natives' lack of interest in entering mission life.

Within the next few years, three other missions were established within the San Antonio area. The remaining three missions were established in San Antonio within weeks of each other in 1731. These three missions, Mission Nuestra Señora de la Purísima Concepción, Mission San Juan de Capistrano, and Mission San Francisco de la Espada, were originally missions established in east Texas. When each failed along the eastern border, they were moved to San Antonio.

In 1731, in addition to the five missions, Villa San Fernando de Bexar was established by the Canary Islanders. Prior to the establishment of Villa San Fernando, Villa de Bexar had been settled by 30 presidio soldiers, seven of whom were married and brought their families. Archival research indicates that upon arrival, the Canary Islanders immediately took over the land surrounding the garrison. This land was used as pasture and was originally property of Mission Valero. There had been a lack of cleared agricultural land at the time, leading Captain Juan Antonio Pérez de Almazán to allow the Canary Islanders use of the property (de la Teja 1995). The initial plan was for additional Canary Island settlers to be sent to San Antonio after the first group was established. Due to high costs to the Spanish Crown, no more groups were brought to Texas. The Canary Islanders launched a formal complaint against Mission Valero. In 1731, the Canary Islanders established their own villa, named San Fernando de Bexar, with their own church. The arrival of the Isleños resulted in the first clearly defined civilian settlement in San Antonio.

With the establishment of the San Antonio Missions, the Spanish friars used the labor of Native Americans and soldiers to construct a system of acequias (irrigation ditches) utilizing local springs, streams, and the San Antonio River to supply water for the agricultural fields of the missions, personal use, and house hold purposes (Cox 2005). The first acequias were simple, soil-lined, gravity-flow canals whose depressions can still be seen today in certain areas around central San Antonio (Cox 1999). This system allowed the Spanish to sustain the large population of Native Americans, settlers, and soldiers that occupied the area.

Previous Archaeological Investigations

A desktop review conducted by **RKEI** on July 3, 2018, determined that the APE was located within known archaeological site 41BX2221, as well as the Mission Parkway National Register Historic District (THC 2019). Furthermore, the APE was located within 0.5 mile (0.8 km) of three known cemeteries: Mission Funeral Park, San Jose Burial Park, and 41BX789 (Pauper's Cemetery). As such, the project was considered to have a high probability of encountering unmarked burial and human remains.

The APE is located within the boundary of the 1976 Mission Parkway survey area; however, it is unlikely that field investigations were conducted within the current APE during the 1976 survey (Scurlock et al. 1976). Further review of a 0.5 mile (0.8 km) radius of the APE identified one known archaeological site (41BX789), one National Register District, and one Official Texas Historical Marker (**Table 3-1; Figure 3-1**) (THC 2019).

Table 3-1. Documented cultural resources within 0.5 mile (0.8 km) of the APE

Resources	Distance/Direction from Project Area	Brief Resource Description	Eligibility Determination
National Register District	0.46 mile (0.74 km) east	Espada Aqueduct (Reference No. 66000809)	-
Cemetery	0.17 (0.27 km) east	San Jose Burial Park First opened as San Antonio City Cemetery No. 8, the cemetery is known for its use as a pauper’s cemetery. The cemetery was renamed in 1923 and is still in use today.	-
Cemetery/Archaeological Site 41BX789	0.21 mile (0.34 km) south-southeast	This site represents a portion of the San Jose Burial Parks Pauper’s Cemetery (Stinson #1 and Stinson #2). Human remains, wood fragments, and nails were found in trenches within the project area. The site has been recommended as a State Antiquities Landmark.	Undetermined (2018)
Cemetery	0.45 mile (0.72 km) east	Mission Funeral Park	-
Historical Marker	0.5 mile (0.8 km) south	Matamoros Road (Marker No. 3255)	-

The APE is located within the recorded boundaries of archaeological site 41BX2221 (THC 2019). The site was recorded by AmaTerra Environmental, Inc., during the 2018 Stinson Airport Land Prep Project. The site represents the mid-twentieth century occupation by the U.S. Army at Stinson Municipal Airport. The Army rented part of the airport and constructed buildings to support operations. After WWII, the facilities were turned over to the COSA. The 2018 archaeological investigations identified the architectural remains of structures and noted that redevelopment of the site would likely completely destroy the documented features. No further work was recommended due to the poor preservation at the site, and the THC determined the site ineligible within the ROW (2018 project area) in 2018 (THC 2019).

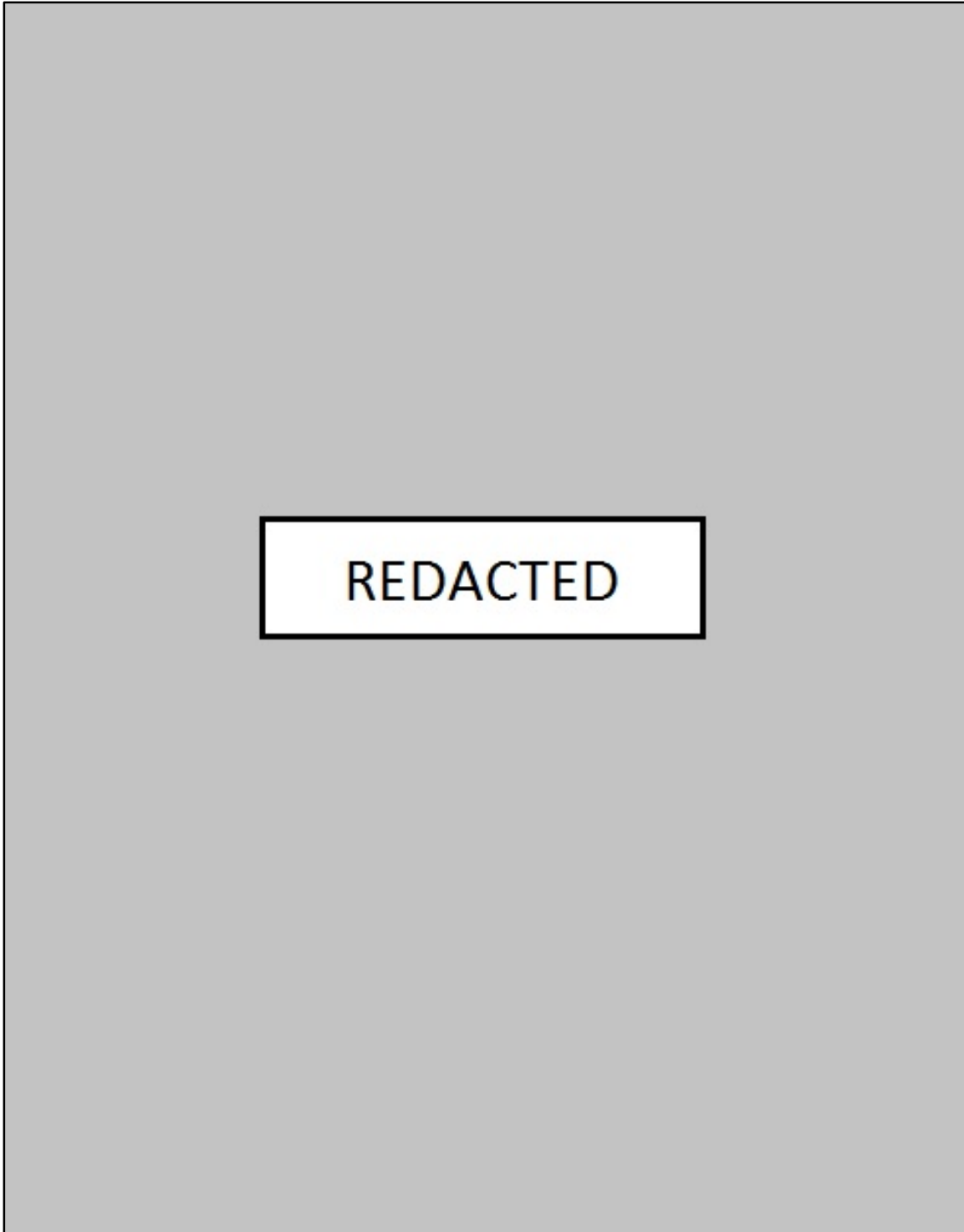


Figure 3-1. Archaeological surveys and site locations within 0.5 mile (0.8 km) of the APE.

CHAPTER 4. METHODS OF INVESTIGATION

To ensure that construction did not impact significant archaeological resources, **RKEI** archaeologists conducted archaeological monitoring of all ground disturbing activities within the 200-foot (61 m) APE. All work complied with THC and Council of Texas Archeologist (CTA) standards for the overall project. In order to conduct this work, an **RKEI** archaeologist stood on the edge of the active excavation, within a safe distance of heavy equipment, and observed the removal of soil matrix. None of the matrix removed during the mechanical excavation was screened for artifacts. If, during monitoring, clusters of artifacts were exposed, excavations were temporarily suspended in the area to allow for careful inspection of the feature. Artifacts noted in the back dirt were inspected and collected only if they were temporally diagnostic.

The project adhered to a temporally diagnostic artifact collection only policy. No architectural or other cultural features were noted during cultural monitoring, and no subsurface evidence of unmarked burials or human remains was observed. As a result, no artifacts were collected during the course of the investigations, and no artifacts will be curated at the completion of the project. The only materials to be processed and curated consist of documents and digital photographs produced during field investigations. Digital photographs were printed on acid-free paper, labeled with archival-quality materials, and placed in archival-quality plastic sleeves. Ink-jet produced maps and illustrations were placed in archival quality plastic page protectors to prevent against accidental smearing due to moisture. Field notes, field forms, photographs, and field drawings were placed into labeled archival folders and were also converted into electronic files (i.e., pdf). A copy of the report and all digital material were burned onto a CD and permanently curated with field notes and documents. All field records generated by this project will be permanently curated at the Center for Archaeological Research at the University of Texas at San Antonio (CAR UTSA).

CHAPTER 5. RESULTS OF INVESTIGATIONS

On April 10 and 11, 2019, an RKEI professional archaeologist conducted cultural resources monitoring investigations for the CPSE 96th Street Rise Installation Project (**Figure 5-1**). Rhiana D. Ward served as Principal Investigator and Project Manager throughout the duration of the project, and all field investigations were conducted by Project Archaeologist Jason Whitaker. Overall, no intact cultural features or deposits were noted during monitoring investigations, and no evidence of unmarked burials or human remains was observed.

The APE was situated within the southern ROW of 96th Street, adjacent to a series of commercial buildings. Existing utilities, such as wooden overhead utility poles, were observed within the vicinity. Additional disturbances noted within the APE included road construction and a storm water runoff drainage within the 96th Street ROW. Ground surface visibility ranged between 0 to 20-percent.

Open trench excavations began at the eastern terminus of the APE and extended west for 16.4 feet (5.0 m) before terminating at a degrading asphalt drive (**Figure 5-2**). Open trench excavations measured 20 inches (50 cm) wide and extended to a maximum depth of 39 inches (100 cm) below surface. The average soil profile for the eastern APE consisted of: Level I, a very dark grayish-brown (10YR 3/2) silty clay loam with less than 5-percent gravels and approximately 3-percent roots that extended to a depth of 23 inches (60 cm); Level II, a brown (10YR 4/3) silty clay with less than 3-percent gravels and less than 1-percent roots, which was recorded extending to the terminal 39-inch (100 cm) depth of the trench (**Figure 5-3**). Soil deposits appeared to be intact; however, no cultural deposits or features were observed during the excavation of the eastern portion of the APE.

Directional boring excavations were conducted to prevent impacts to the 25-foot (8 m) wide degrading asphalt drive. Directional boring methods produce minimal spoils for examination, and soils produced for the project did not contain evidence of cultural materials. Open trench excavations resumed on the west side of the degrading asphalt drive and continued west for approximately 76 feet (23 m) before again terminating at a second degrading asphalt drive. The trench measured 20 inches (50 cm) wide and extended to a maximum depth of 35 inches (89 cm) below surface (**Figure 5-4**). The soil profile associated with the center APE trench consisted of: Level I, a very dark grayish-brown (10YR 3/2) silty clay loam with less than 2-percent gravels that extended to a depth of 21 inches (55 cm) below surface; and Level II, a

brown (10YR 4/3) silty clay with 3-percent gravels that extended to the maximum 39-inch (100 cm) depth of the trench (**Figure 5-5**). A disturbance was identified near the eastern end of the central trench, approximately 14 inches (35 cm) below surface. The disturbance consisted of a construction fill with 25-percent gravel inclusions and was likely associated with road construction activities or the installation of an existing road sign immediately adjacent to the trench alignment (**Figure 5-6**). Other disturbances within the central portion of the APE included a ceramic sewer pipe, which ran the length of the trench.

No intact cultural deposits or features were observed within the central APE trenching excavations; however, a diffused scatter of cultural materials were observed. Materials included clear glass with no diagnostic markings, a rusted aluminum can, and a ceramic sewer pipe fragment (**Figure 5-7**). All of the cultural materials were documented from the uppermost soil stratum of excavation and were determined to be modern refuse material.

The last portion of the APE was excavated to the west of the second degrading asphalt drive, approximately 16 feet (5 m) west of the central APE trench. Directional boring was conducted beneath the 16-foot (5m) wide asphalt drive, which produced no evidence of cultural materials. Open trench excavations measured 58.4 feet (17.8 m) long, 20 inches (50 cm) wide, and a maximum depth of 39 inches (100 cm) below surface (**Figure 5-8**). The average soil profile for the western APE consisted of: Level I, a very dark grayish-brown (10YR 3/2) silty clay loam with 5-percent gravels and 3-percent roots that extended to a depth of 17-inches (45 cm) below surface; and Level II, a brown (10YR 4/3) silty clay loam with 2-percent gravels and 1-percent roots that was recorded as extending to the maximum 39-inch (100 cm) trench depth (**Figure 5-9**). Disturbances noted within the western APE trench included an existing utility line at 28 inches (70 cm) below surface, approximately 29 feet (9 m) west of the second degrading asphalt drive (**see Figure 5-9**).

No intact cultural deposits or features were observed within the western APE trenching excavations; however, a diffused scatter of cultural materials were observed. Materials included ceramic sewer pipe, amber and clear glass fragments, and a plastic makeup applicator (**Figure 5-10**). All of the cultural materials were documented from the uppermost soil stratum of excavation and were determined to be modern refuse material.

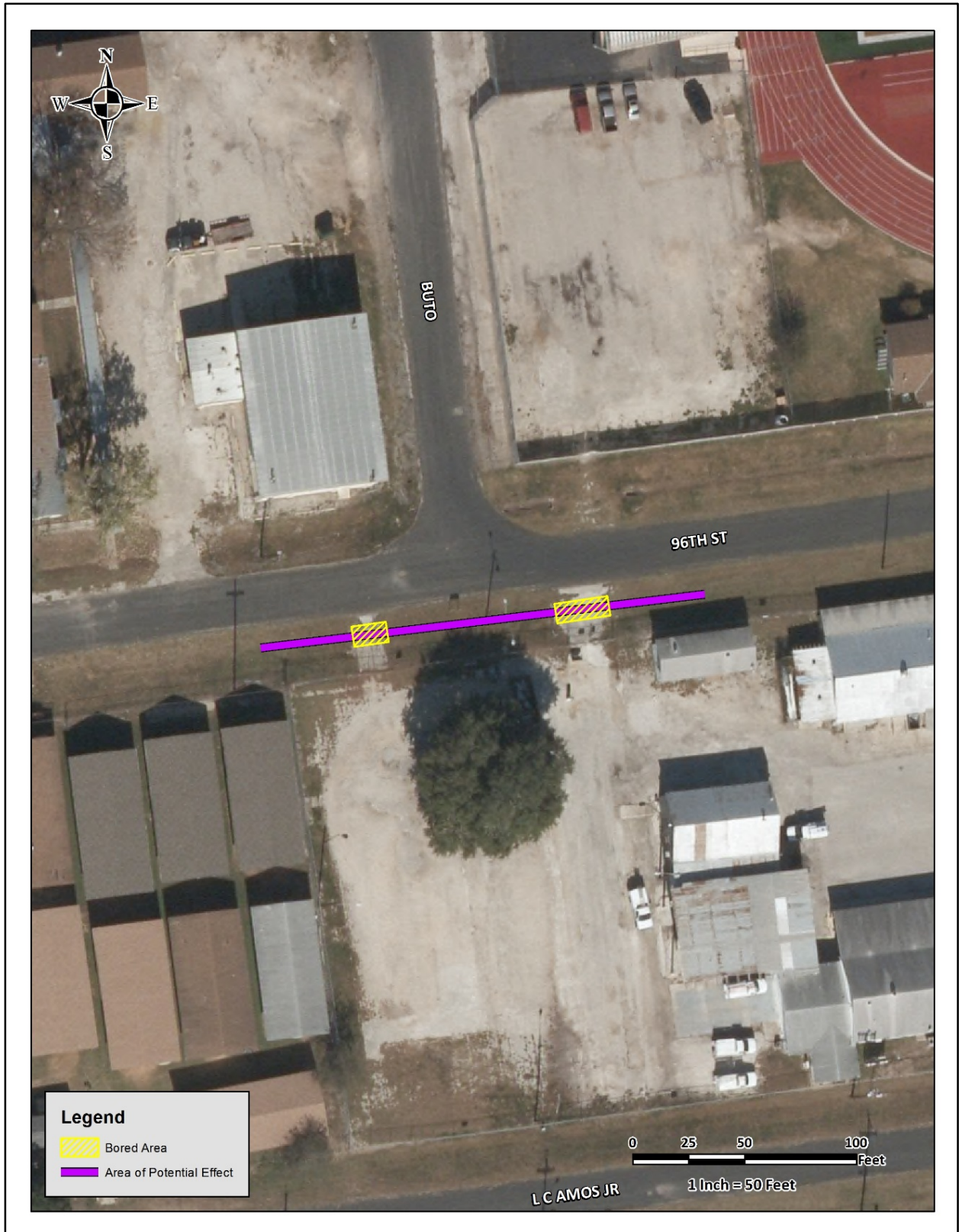


Figure 5-1. Cultural resources monitoring results.



Figure 5-2. Overview of eastern APE trench excavations, facing west.



Figure 5-3. Average soil profile of the eastern APE, facing south.



Figure 5-4. Overview of central APE trench, facing west.



Figure 5-5. Central APE trench profile, facing south.



Figure 5-6. Disturbance near the eastern end of the central APE trench, facing northeast.



Figure 5-7. Example of cultural materials documented within the central APE trench.



Figure 5-8. Overview of the western APE excavations, facing southwest.



Figure 5-9. Average soil profile of the western APE excavation, showing existing utility line, facing east.



Figure 5-10. Cultural materials documented within the western APE trench.

CHAPTER 6. SUMMARY AND RECOMMENDATIONS

RKEI was contracted by CPSE to conduct cultural resources monitoring investigations for the CPSE 96th Street Riser Installation Project in southern San Antonio, Bexar County, Texas. The project involved the installation of a 3-inch riser and secondary enclosure within the 96th Street ROW. The project fell under the jurisdiction of Chapter 35 of the UDC of the COSA, as well as the ACT. All work complied with the THC and the CTA survey standards for Texas for the overall project area.

A desktop review determined that the APE was located within known archaeological site 41BX2221, as well as the Mission Parkway National Register Historic District. Furthermore, the APE was located within 0.5 mile (0.8 km) of three known cemeteries: Mission Funeral Park, San Jose Burial Park, and 41BX789 (Pauper's Cemetery). As such, the project was considered to have a high probability of encountering unmarked burial and human remains.

Cultural resources monitoring investigations for the project was conducted on April 10 and 11, 2019. The APE encompassed approximately 200 feet (61 m) of alignment along the southern ROW of 96th Street; however, approximately 41 feet (12 m) the APE was excavated using directional boring excavations to prevent disturbance to two degrading asphalt drives that intersected the trench alignment. Minimal spoils produced by directional boring excavations were examined for cultural material and were found to be negative. The remaining 159 feet (48 m) of APE alignment was excavated using open cut trenching methods. Open cut excavations measured 20 inches (51 cm) wide and 40 inches (102 cm) deep on average. A minimal number of cultural materials were observed throughout trenching excavations, but were limited to the upper stratigraphic layers and consisted mostly of modern refuse. Disturbances within the APE included existing underground utilities and road construction activities.

Overall, no significant cultural deposits or features were documented during monitoring excavations of the CPSE 96th Street Riser Installation Project, and no evidence of unmarked burials or human remains were observed. Furthermore, no cultural materials or significant cultural materials were identified that may be associated with previously recorded site 41BX2221. As such, **RKEI** recommends site 41BX2221 as ineligible within the given APE due to a lack of cultural materials or deposits. Given this conclusion, **RKEI** recommends no further archaeological investigations for the current APE and improvements should

proceed as planned. However, should additions be made to the APE, additional testing may be required to determine the presence and significance of cultural deposits beyond the currently defined boundaries.

REFERENCES CITED

Bement, L.C

- 1991 The Thunder Valley Burial Cache: Group Investment in a Central Texas Sinkhole Cemetery. *Plains Anthropologist* 36(135):97–109.

Black, S. L.

- 1986 *The Clemente and Herminia Hinojosa Site, 41JW8: A Toyah Horizon Campsite in Southern Texas*. Special Report, No. 18. Center for Archaeological Research, The University of Texas at San Antonio.

- 1989a Environmental Setting. In *From the Gulf to the Rio Grande: Human Adaptation in Central, South, and Lower Pecos Texas*, by Thomas R. Hester, Stephen L. Black, D. Gentry Steele, Ben W. Olive, Anne A. Fox, Karl J. Reinhard, and Leland C. Bement, pp. 5–16. Research Series No. 33. Arkansas Archeological Survey, Fayetteville.

- 1989b Central Texas Plateau Prairie. In *From the Gulf to the Rio Grande: Human Adaptation in Central, South, and Lower Pecos, Texas*, by Thomas R. Hester, Stephen L. Black, D. Gentry Steele, Ben W. Olive, Anne A. Fox, Karl J. Reinhard, and Leland C. Bement, pp. 17–38. Research Series No. 33. Arkansas Archeological Survey, Fayetteville.

Black, S.L., and D.G. Creel

- 1997 The Central Texas Burned Rock Midden Reconsidered. In *Hot Rock Cooking on the Greater Edwards Plateau: Four Burned Rock Midden Sites in West Central Texas*, by Steve Black, Linda W. Ellis, Darrell G. Creel and Glenn T. Goode, pp.269–305. Studies in Archeology 2. Texas Archeological Research Laboratory, The University of Texas at Austin.

Bousman, C.B.

- 1998 Paleoenvironmental Change in Central Texas: The Palynological Evidence. *Plains Anthropologist* 43 (164):201–219.

Bousman, C.B, B.W. Baker, and A.C. Kerr

- 2004 Paleoindian Archeology in Texas. In *The Prehistory of Texas*, edited by Timothy Perttula, pp. 15–97. Texas A&M University Press, College Station.

Collins, M.B.

- 1995 Forty Years of Archeology in Central Texas. *Bulletin of the Texas Archeological Society* 66:361–400.

- 2004 Archeology in Central Texas. In *Prehistory of Texas*, edited by Timothy K. Perttula, pp.101–126. Texas A&M University Press. College Station, Texas.

Collins, M.B., J. Guy, and S.W. Dial

- 1998 The Archaic Period, 8800 to1300 BP. In *Wilson-Leonard: An 11,000-year Archaeological Record of Hunter-Gatherers on Central Texas*. Volume I: Introduction, Background, and Syntheses. Edited by Michael B. Collins. Studies in Archaeology 31. Texas Archaeological Research Laboratory, The University of Texas at Austin.

Collins, M.B., D.B. Hudler, and S.L. Black

- 2003 *Pavo Real (41BX52): A Paleoindian and Archaic Camp and Workshop on the Balcones Escarpment, South-Central, Texas*. Studies in Archeology 41, Texas Archeological Research Laboratory, The University of Texas at Austin. Archeological Studies Program, Report 50, Environmental Affairs Division, Texas Department of Transportation, Austin.

Cox, I.W.

- 1999 *Historic Period*. In *Archeological Survey and Testing in San Pedro Park (41BX19), San Antonio, Texas*, by B.A. Houk, pp. 6–11. Archeological Survey Report, No. 289. Center for Archeological Research, The University of Texas at San Antonio, San Antonio.

- 2005 *The Spanish Acequias of San Antonio*. Maverick Publishing Company, San Antonio.

de la Teja, J.F.

- 1995 *San Antonio de Bexar: A Community on the New Spain's Northern Frontier*. The University of New Mexico Press, Albuquerque.

Ferring, C.R.

- 2001 *The Archaeology and Paleoecology of the Aubrey Clovis Site (41DN479) Denton County, Texas*. Center for Environmental Archaeology. Department of Geography, University of North Texas.

Fox, A.A., and D.E. Fox

- 1967 The Classen Rock Shelter, 41BX23. Manuscript on File at the Center for Archeological Research, The University of Texas at San Antonio.

Griffin, G. E., and J. M. Omernik

- 2019 Ecoregions of Texas (EPA). U.S. Environmental Protection Agency. Available at: http://www.ecoearth.org/article/Ecoregions_of_Texas (EPA). Accessed February 20, 2019.

Habig, M.A.

- 1968 *The Alamo Chain of Missions: A History of San Antonio's Five Old Missions*. Franciscan Herald Press, Chicago.

Hester, T.R.

- 1978 Early Human Occupation in South Central and Southwestern Texas; Preliminary Papers on the Baker Cave and St. Mary's Hall Sites. Manuscript on File. Center for Archeological Research, The University of Texas at San Antonio.

- 1990 Plainview Artifacts at the St. Mary's Hall Site, South Central Texas. *Current Research in the Pleistocene* 7:14–17.

- 2004 The Prehistory of South Texas. In *Prehistory of Texas*, edited by Timothy K. Pertulla, pp.127–151. Texas A&M University Press. College Station, Texas.

Highley, C.L., C. Graves, C. Land, and G. Judson

- 1978 Archeological Investigations at Scorpion Cave (41ME7) Medina County, Texas. *Bulletin of the Texas Archeological Society* 49:139–194.

Huebner, J.A.

- 1991 Late Prehistoric Bison Populations in Central and Southern Texas. *Plains Anthropologist* 36(137):343–358.

Ivey, J. E.

- 1984 The San Antonio Missions. Unpublished Manuscript. On file at the Center for Archaeological Research, The University of Texas at San Antonio.

Johnson, L.

- 1994 *The Life and Times of Toyah-Culture Folk: The Buckhollow Encampment Site 41KM16, Kimble County, Texas*. Report No. 38. Office of the State Archeologist, Austin.

Johnson, L., and G.T. Goode

- 1994 A New Try at Dating and Characterizing Holocene Climates, as well as Archaeological Periods, on Eastern Edwards Plateau. *Bulletin of the Texas Archaeological Society* 65:1–51.

Johnson, L, Jr., D. A. Suhm, and C. D. Tunnell

- 1962 Salvage Archeology of Canyon Reservoir: The Wunderlich, Footbridge, and Oblate Sites. *Texas Memorial Museum Bulletin No. 5*, The University of Texas at Austin.

Kalter, A.J., R.M. Rogers, and M.N. Smith

- 2005 *Analysis and Reporting for 41FY135, the Sandbur Site, Fayette County, Texas*. PBS&J, Document No. 020388. Archeological Studies Program Report No. 73. Texas Department of Transportation. Austin.

Mauldin, R.P., and D.L. Nickels

- 2001 *An Archaeological Survey of Twin Buttes Reservoir, Tom Green County, Texas*. Archaeological Survey Report, No. 300. Center for Archaeological Research, The University of Texas at San Antonio.

Mauldin, R.P., D.L. Nickels, and C.J. Broehm

- 2003 Archaeological Testing at Determine the National Register Eligibility Status of 18 Prehistoric Sites on Camp Bowie, Brown County, Texas (Volume 1 and Volume 2). Archaeological Survey Report, No. 334. Center for Archaeological Research, The University of Texas at San Antonio.

Meltzer, D.J., and M.R. Bever

- 1995 Paleoindians of Texas: An Update on the Texas Clovis Fluted Point Survey. *Bulletin of the Texas Archeological Society* 66:47–81.

Natural Resources Conservation Service (NRCS)

- 2019 Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. *Web Soil Survey of Bexar County*. Available at <http://websoilsurvey.nrcs.usda.gov/>. Accessed April 2019.

Nickels, D.L., C.B. Bousman, J.D. Leach, and D.A. Cargill

- 1998 *Test Excavations at the Culebra Creek Site, 41BX126, Bexar County, Texas*. Archaeological Survey Report, No. 265. Center for Archaeological Research, The University of Texas at San Antonio.

Patterson, L.W.

- 1988 Chronology of Arrow Point Types in South Texas. *La Tierra* 15(4):29–33.

Powell, J.F., and D.G. Steele

- 1994 Diet and Health of Paleoindians: An Examination of Early Holocene Human Dental Remains. In *Paleonutrition: The Diet and Health of Prehistoric Americans*. Edited by K.D. Sobolik, pp. 176–192. Occasional Paper No. 22. Carbondale: Center for Archaeological Investigations, Southern Illinois University, Carbondale.

Prewitt, E.R.

- 1981 Cultural Chronology in Central Texas. *Bulletin of the Texas Archaeological Society*. 52:65–89.
- 1985 From Circleville to Toyah: Comments on Central Texas Chronology. *Bulletin of the Texas Archeological Society* 54:201–238.

Quigg, J.M., C. Lintz, F.M. Oglesby, A.C. Earls, C.D. Frederick, W.N. Trierweiler, D. Owsley, and K.W. Kibler

- 1993 Historic and Prehistoric Data Recovery at Palo Duro Reservoir, Hansford County, Texas. Technical Report 485. Mariah Associates, Inc., Austin.

Ricklis, R.A.

- 1995 Prehistoric Occupation of the Central and Lower Texas Coast: A Regional Overview. *Bulletin of the Texas Archeological Society* 66:265–300.

Schuetz, M.K.

- 1968 *The History and Archaeology of Mission San Juan Capistrano, San Antonio, Texas*. Volume 1. Archeology Program Report Number 10. State Building Commission, Austin.

Scurlock, D., A. Benavides, Jr., D. Isham, and J. Clark, Jr.

- 1976 *An Archeological and Historical Survey of the Proposed Mission Parkway, San Antonio, Texas*. Archeology Survey Report No. 17, Texas Historical Commission, Austin.

Skinner, S.A.

- 1981 Aboriginal Demographic Changes in Central Texas. *Plains Anthropologist* 26(92):111–118.

Sorrow, W. M., H. J. Shafer, and R. E. Ross

- 1967 *Excavations at Stillhouse Hollow Reservoir*. Papers of the Texas Archeological Salvage Project 11. The University of Texas at Austin, Austin.

Southern Regional Climate Center

- 2019 Monthly Climate Summary. Available at www.srcc.lsu.edu/. Accessed April 2019.

Story, D. A.

- 1985 Adaptive Strategies of Archaic Cultures of the West Gulf Coastal Plain. In *Prehistoric Food Production in North America*, edited by R. I. Ford, pp. 19–56. Anthropological Papers 75. Museum of Anthropology, University of Michigan, Ann Arbor.

Suhm, D. A.

1957 Excavations at the Smith Rockshelter, Travis County, Texas. *Texas Journal of Science* 9:26–58.

1960 A Review of Central Texas Archeology. *Bulletin of the Texas Archeological Society* 29:63–107.

Suhm, D.A., A.D. Krieger, and E.B. Jelks

1954 An Introductory Handbook of Texas Archeology. *Bulletin of the Texas Archeological Society* 25.

Texas Historical Commission (THC)

2019 Texas Archeological Sites Atlas. <http://nueces.thc.state.tx.us/>. Accessed April 2019.

Thoms, A.V., D.D. Keuhn, B.W. Olive, J.E. Dockall, P.A. Clabaugh and R.D. Mandel

1996 Early and Middle Holocene Occupations at the Richard Beene Site: The 1995 Southern Texas Archaeological Society Association Field School Project. *La Tierra* (23) 4:1–36.

Thoms, A.V., and R.D. Mandel

2006 *Archaeological and Paleoecological Investigations at the Richard Beene Site 41BX831: South Central Texas*. Reports of Investigations, No. 8. Center for Ecological Archaeology, Texas A&M University, College Station.

Tomka, S.A.

2012 Archaeology Along the Upper San Antonio River. Paper presented at the Southern Texas Archaeological Association Spring Quarterly Meeting.

Toomey, R.S., M.D. Blum, and S. Valastro, Jr.

1993 Late Quaternary Climates and Environments of the Edwards Plateau, Texas. *Global and Planetary Change* 7:299–320.

Turner, E.S., and T.R. Hester

1999 *A Field Guide to Stone Artifacts of Texas Indians*. 3rd ed. Texas Monthly Field Guide Series Gulf Publishing, Houston.

Weir, F. A.

1976 The Central Texas Archaic. Ph.D. dissertation, Department of Anthropology, Washington State University, Pullman.

Winkler, B.A.

1982 Wild Plant Foods of the Desert Gatherers of West Texas, New Mexico, and Northern Mexico: Some Nutritional Values. Unpublished Master's Thesis, Department of Anthropology, The University of Texas at Austin.