Volume 2015 Article 135

2015

A Cultural Resources Survey Of The Proposed Water And Sewer Line Project On SH-16 Helotes, Bexar County, Texas

Kristi Miller Nichols

Mark P. Luzmoor

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A CULTURAL RESOURCES SURVEY OF

THE PROPOSED WATER AND SEWER LINE PROJECT ON SH-16

HELOTES, BEXAR COUNTY, TEXAS

by:

Kristi Miller Nichols and

Mark P. Luzmoor

Prepared for:

LNV Engineers
8918 Tesoro Dr., Suite 401
San Antonio, TX 78217

RESTRICTED

Prepared by:

RABA KISTNER ENVIRONMENTAL, INC.

San Antonio, Texas

Texas Antiquities Committee Permit Number: 7087

ASF14-175-00

April 2015

Management Summary:

In November 2014, LNV Engineers (CLIENT) contracted with Raba Kistner Environmental, Inc. (**RKEI**) to perform an intensive cultural resources survey along State Highway (SH) 16 for a proposed water and sewer line project in Helotes, Bexar County, Texas. The project occurred within the existing SH-16 Right-of Way (ROW). The purpose of this survey was to locate surface exposed or buried cultural deposits with the project area. The project is sponsored by the City of Helotes. Therefore, the proposed project falls under the Antiquities Code of Texas as administered by the Texas Historical Commission (THC). The project was carried out between November 24-26, 2014 under Texas Antiquities Committee Permit No. 7087 issued to Dr. Steve A. Tomka, who served as Principal Investigator. Mark Luzmoor served as the Project Archaeologist and Chris Murray served as the field technician.

Background research carried out prior to the fieldwork revealed no known archaeological sites within or in the vicinity of the Area of Potential Effect (APE). One historical marker is present within the APE. Although there are no archaeological sites within the boundary of the APE, there are ten sites, three historical markers, and one National Register Property within a one mile radius of the project area.

A total of 26 shovel tests (ST) were excavated within the APE. Due to the lack of deep soils within the APE, no backhoe trenches were excavated. No buried artifacts were encountered during shovel testing and none were noted on surface during the pedestrian survey. Since no cultural deposits were encountered, **RKEI** does not recommend that further archaeological investigations within the project boundaries and the proposed project can proceed as planned. All documents generated during the course of the project are permanently housed at the Texas Archeological Research Laboratory (TARL).

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Chapter 1: Introduction and Area of Potential Effect

Raba Kistner Environmental, Inc. (**RKEI**) was contracted by LNV Engineers (CLIENT) to perform an intensive cultural resources survey along State Highway 16 (SH-16) in advance of the planned installation of a water and sewer line in Helotes, Bexar County, Texas. The project area is located within the existing SH 16 Right-of-Way (ROW) (**Figure 1-1**). This work was done under Texas Antiquities Committee Permit No. 7087. The project is sponsored by the City of Helotes. Since the ROW is owned by a political subdivision of the State, the project falls under the Antiquities Code of Texas as administered by the Texas Historical Commission (THC). There is no federal or state funding involved with the project. The purpose of this survey was to locate cultural deposits and assess their significance and eligibility for listing on the National Register of Historic Places and for formal designation as State Antiquities Landmarks. The original scope of work (SOW) called for the excavation of both backhoe trenches and shovel tests to identify areas of buried cultural deposits. However, no areas of deep soils were encountered during the pedestrian survey to warrant the excavation of backhoe trenches. Rather, a total of 26 shovel tests were hand-excavated during the course of the survey. Only two of these units reached the designated 80 cm terminal depth. No surface-exposed or buried historic or prehistoric artifacts were identified by the project. This report summarizes the results of the field investigations, and provides recommendations regarding the proposed project. Following this introductory chapter, Chapters 2 and 3 provide background on the setting of the project area and the culture history and previous archaeological investigations that have taken place in the vicinity of the planned improvements. Chapter 4 outlines the field and laboratory methods employed during the project and the next chapter summarizes the results of the field investigations. Chapter 6 provides a brief summary of the findings and provides recommendations regarding the planned project. Briefly, it is recommended that given the lack of intact cultural deposits and features within the project area, the planned improvements should proceed without the need for additional archaeological investigations.

Area of Potential Effect

The Area of Potential Effect (APE) is located in Helotes, Bexar County, Texas. The survey was conducted along the east side of SH-16 from Orange Tower to approximately 0.15 miles south of Circle A Trail. **Figure 1-1** depicts the APE within Helotes, Texas. The project area is located on the *Helotes, Texas* (2998-312) 7.5 minute United States Geological Society (USGS) topographic quadrangle map (**Figure 1-2**). The combined length of the proposed sewer and water line installation is approximately 1.72 miles (9,100 feet) while the width of the project easement is approximately eight feet. The water and sewer

lines will be installed in different trenches within the same easement. The ROW crosses Helotes Creek just north of Floore Drive. A concrete bridge allows vehicular traffic across the creek and concrete aprons along the easement protect the footings of the bridge.

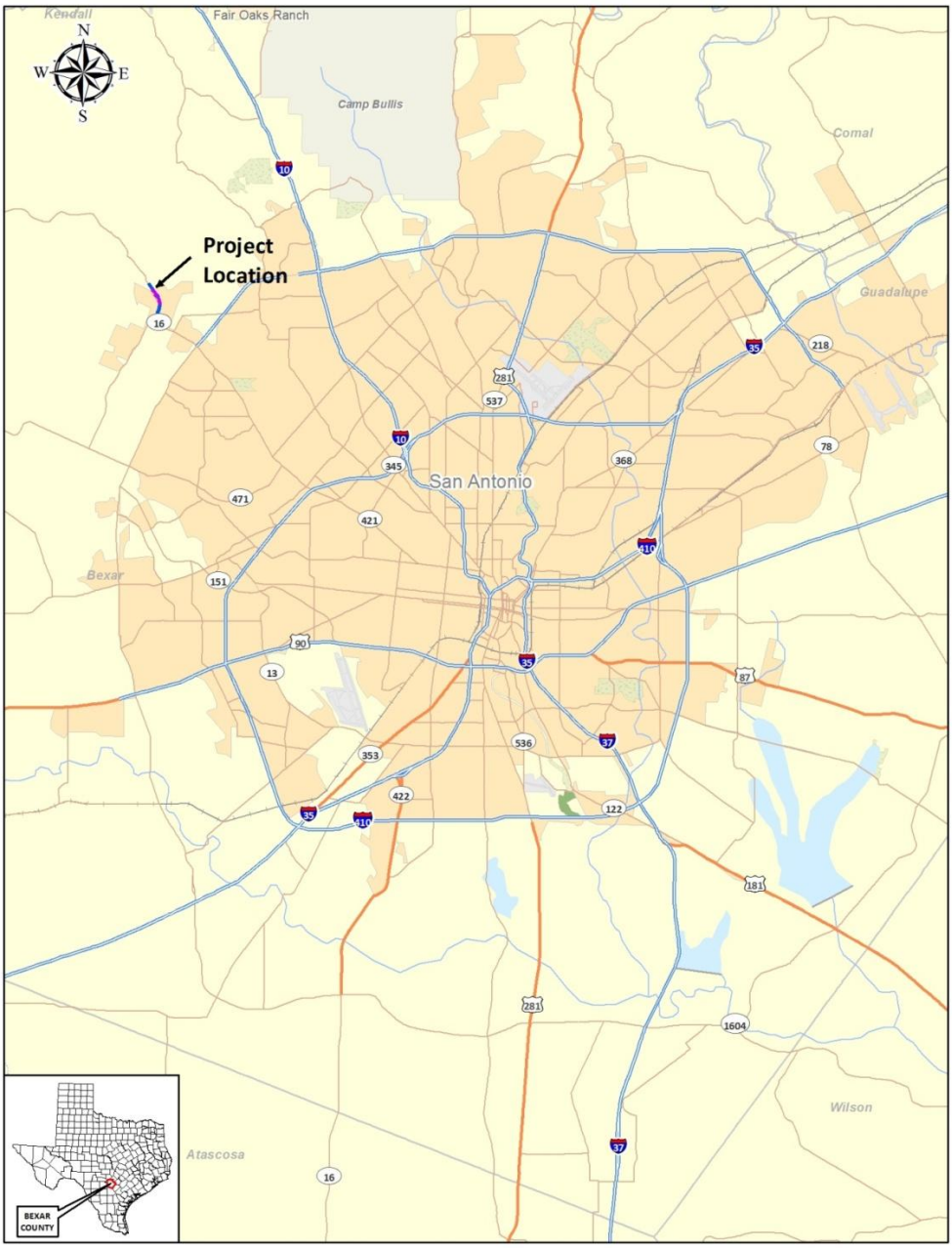

Figure 1-1. Location of the APE in Helotes, Bexar County, Texas

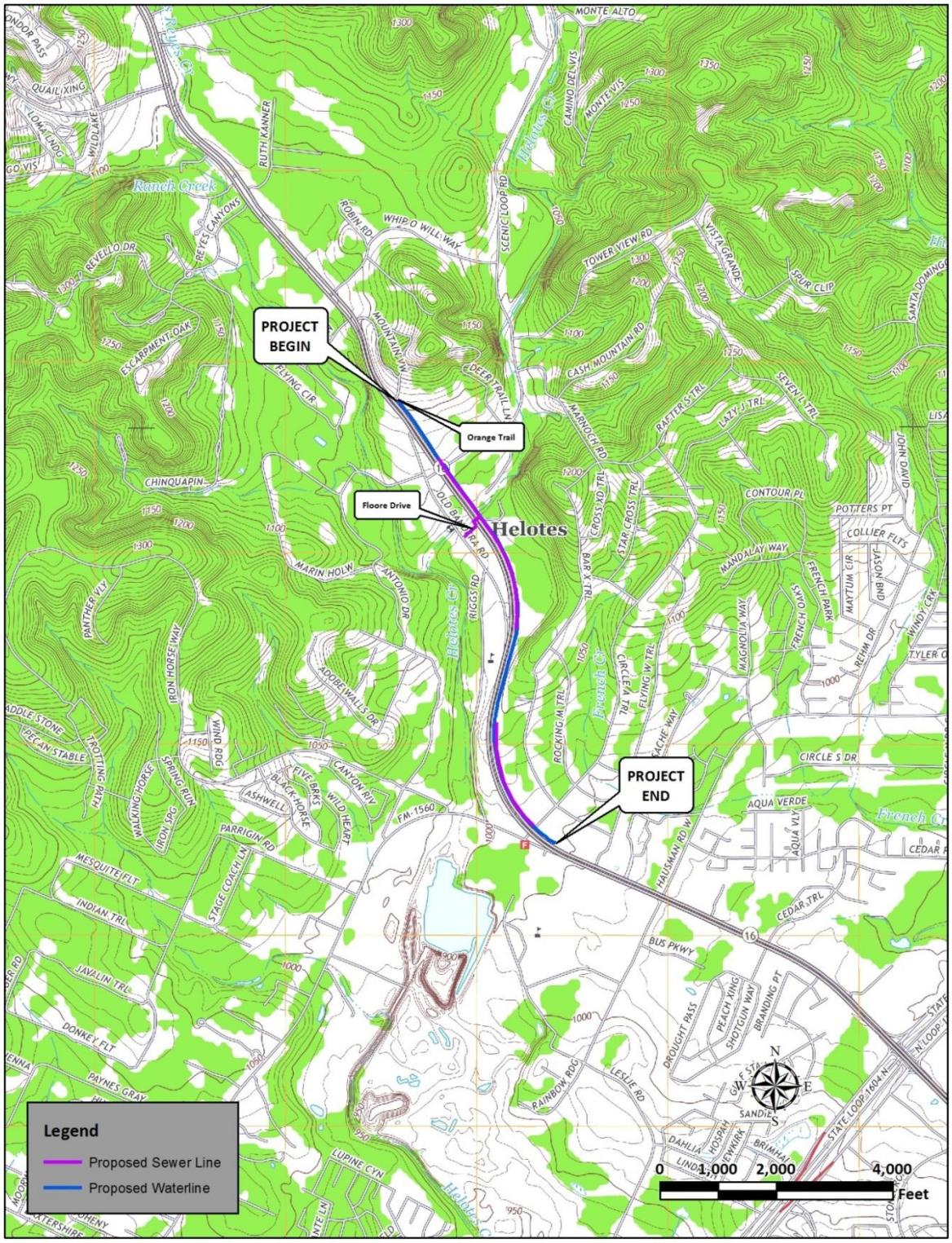

Figure 1-2. Project area on the *Helotes, Texas* (2998-312) 7.5 minute United States Geological Society (USGS) topographic quadrangle map.

Chapter 2: Environmental Setting

Project Area Setting

The project area is located in south-central Texas. The region is bordered by the Edwards Plateau to the north, the Rio Grande River to the south, the Gulf of Mexico coastline to the east, and the Lower Pecos region to the west (Norwine 1995:138). A gently rolling landscape with seasonal drainages dominates the landscape. Elevations across the project area range from approximately 1,010 ft above mean sea level (amsl) near the northern end of the proposed water and sewer lines, to approximately 1,000 ft amsl at the southern end. Helotes Creek is the only drainage that flows through the APE.

The easement is located within a heavily impacted Right-of-Way (ROW) that contains concrete culverts at each driveway (**Figure 2-1**). In addition, parts of the ROW have been cut into the surrounding bedrock and therefore the soils in these areas are extremely shallow (**Figure 2-2**)**.** Finally, prior to the construction of the bridge that crosses Helotes Creek fill had been introduced on both banks to raise the grade to allow for large volumes of flood water to clear the bridge during heavy rain events. In addition, in the vicinity of the bridge footings, the banks themselves were covered by concrete aprons to reduce the potential of erosion (**Figure 2-3**). As a result, the portion of the project area with the highest potential for deeply buried deposits was buried under several feet of fill and inaccessible within the project easement, due to bridge construction-related erosion control features.

Figure 2-1. Typical setting along ROW. Note exposed bedrock and concrete culvert.

Figure 2-2. Bedrock ledge in vicinity of project ROW.

Figure 2-3. Concrete aprons protecting bridge footings on both sides of Helotes Creek

Soils

The APE crosses the Krum series which consists of dark clayey soils, moderately deep and range from gently to moderately sloping (Taylor et al. 1991:23-24). This area is dominated by three different soil types: Eckrant cobbly clay, Anhalt clay, and Patrick soils. The Eckrant cobbly clay has 1 to 5 percent slopes and is composed of cobbly clay from 0-10 inches, extremely stony clay from 10-18 inches and bedrock is present below 18 inches. Anhalt clay has 0 to 2 percent slopes and is composed of clay from 0-28 inches and bedrock is present from 28-60 inches. Patrick soils have 1 to 3 percent slopes and are composed of clay loam from 0-17 inches and very gravelly sand from 17-60 inches (USDA Web Soil Survey 2014).

Flora and Fauna

The project area is located near the intersection of the Balconian and Taumaulipan biotic provinces (Blair 1950). A diverse number of both floral and faunal resources are available from the Austroiparian, 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 (*Optunia* sp.), agarita (*Berberis trifoliolata*), cat claw (*Smilax bona-nox*), mustang grape (*Vitis mustangensis*), sotol (*Dasylirion 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 that were noted along the ROW include white-tailed deer (*Odocoileus virginianus*), nine-banded armadillo (*Dasypus novemcinctus*), Virginia opossum (*Didelphis virgininana*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), cottontail rabbit (*Sylvilagus audubonii*), feral hogs and cats.

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 (SRCC 2014; based on monthly averages from 1980 to 2010). Monthly temperature averages range between 52°F in January to 85°F in August.

Chapter 3: Culture Chronology and Previous Archaeology

Culture Chronology

The cultural history of Bexar County and the vicinity spans approximately 11,500 years. Archaeologists have divided the occupation of the region into four principal periods and several sub-periods: Paleoindian, Archaic, Late Prehistoric, and Historic. The periods are characterized by changes 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. The standard summaries of the culture chronologies of Central Texas accepted by many of the regional archaeologists were produced by Collins (1995) and Prewitt (1981). Below is a brief summary of the cultural sequence that has been reconstructed by archaeologists for the south-central part of the State.

Paleoindian

The oldest cultural materials found in the region date to the Paleoindian Period. The period spans roughly from 11,500-8800 BP (Collins 1995, 2004). The Aubrey site in Denton County has one of the earliest occupations, with radiocarbon assays dating to between 11,542 ± 11 BP and 11,590 ± 93 BP (Bousman et al. 2004:48). Paleoclimatic proxy measures suggest that a cooler climate with increased precipitation was predominant during the Late Pleistocene (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 Paleoindians populations did exploit the Late Pleistocene mega-fauna when it was accessible, a number of faunal assemblages from an increasingly 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 ± 125 BP (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, Texas, 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 BP.

Archaic Period

The Archaic Period dates between ca. 8800 to 1200 BP. 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 is 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

Collins (1995) suggests that the Early Archaic spans from 8800 to 6000 BP. Projectile point styles characteristic of the Early Archaic include Angostura, Early Split Stem, Martindale, and Uvalde (Collins 1995). 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 Wilson-Leonard excavation 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 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 become the dominant points tipping the atlatl-thrown darts. While hot rock-cooking hearths continued to be used, 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) revealed diets low in carbohydrates in comparison to the Early Archaic populations found in the Lower Pecos region.

Within Bexar County, the excavations at 41BX1396 revealed an Early Archaic component, radiocarbon dated to Cal BP 8390 to 8180, (Tomka 2012).

Middle Archaic

The Middle Archaic subperiod spans from 6000 to 4000 BP (Collins 1995; Weir 1976). Archaeological data indicate that there appeared to be a population increase during this time. Climate was gradually drying leading to the onset of a long drought period. Projectile point styles characteristic of this subperiod 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 1989). The increase of burned rock middens during the Middle Archaic represented the increased focus on the use of plant resources (Black 1989; Johnson and Goode 1994). Little is known about burial practices during the Middle Archaic. An excavation in an Uvalde County sinkhole (41UV4) contained 25-50 individuals (Johnson and Goode 1994:28).

Late Archaic

The Late Archaic spans from 4000 to 1200 BP (Collins 2004). The early part of the Late Archaic exhibited fluctuations in the 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 although, the review of radiocarbon dates associated with midden sites suggests differently (see Black and Creel 1997; Mauldin et al. 2003). Johnson and Goode (1994) discuss the role of burned rock middens in relation to acorn processing. Common dart points of the sub-period included the Bulverde, Pedernales, Kinney, Lange, Marshall, Williams, Marcos, Montell, Castroville, Ensor, Frio, Fairland and Darl types.

Human remains from burials related to the Late Archaic in Central and South Texas suggest the region saw an increase in population accompanied perhaps by a higher degree of seasonal-sedentism. This increase may have prompted the establishment of territorial boundaries which resulted in boundary disputes (Story 1985). Cemeteries dating to this sub-period have been encountered near the Edward's Plateau.

Late Prehistoric

The Late Prehistoric Period begins ca. 1200 BP (Collins 1995; Collins 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 BP (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).

Most researchers concur that the early portion of the Late Prehistoric Period saw a decrease in population density (Black 1989:32). Radiocarbon dates from some sites have indicated that the middens were utilized during the Late Prehistoric. Some archaeologists feel the 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 primarily a Late Prehistoric occurrence (see also Mauldin et al. 2003).

Beginning rather abruptly at about 650 BP, a shift in technology occurred. This shift consists of the introduction of blade technology, the adoption of ceramics in Central Texas (bone-tempered plainwares), the appearance of Perdiz arrow points, and alternately beveled bifaces (Black 1989a: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 BP, 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 short 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 dating to this period often revealed evidence on conflict (Black 1989:32).

Historic

Until the mid-nineteenth century the main settlements in the region was San Antonio de Bexar and San Fernando. One of the early settlers in what is today referred to as Old Town Helotes, was George F. Marnoch, a Scottish immigrant. Marnoch was a surgeon whose land included the current location of Old Town Helotes. Marnoch purchased the property in 1858 from Francis Giraud (BCDR R1:72). Marnoch

constructed a two-and-a-half story limestone block house (Massey 2014). The house remains standing in Helotes today and is a private residence (Massey 2008). Mardoch's eldest son, Gabriel, was a respected naturalist as well as the town doctor after his father's death (Massey 2008). The Mardoch heirs inherited the Helotes land after George's death (BCDR 235:175).

By the 1870s, the town had a stagecoach stop that was managed by the first postmaster, Carl Mueller (Massey 2014). Carl Mueller was a German immigrant who together with his wife, Amalie Stolz Mueller, also ran the Helotes Stagecoach Inn, which provided a rest stop for those traveling the frontier along the stagecoach line. The Mueller homestead is currently a private residence within Helotes Ranch Acres (Massey 2008).

In 1880, the Marnoch heirs sold a portion of the Helotes property to Arnold Gugger (BCDR 15:523). The portion that was conveyed to Gugger became the center of downtown Helotes (Massey 2008). Shortly after Gugger purchased the property, he constructed a two-story limestone house for his wife, Amelia Benke. In addition to the homestead, Gugger built a General Store, a blacksmith shop, and a saloon (Massey 2014). The homestead and the store are still standing and serve as the current locations of the Helotes Bike Shop and the Old Town Grill (Massey 2008). Arnold Gugger became the town's third postmaster (Massey 2014).

The downtown area of Helotes was further developed by Wilbert Hileman during the early 20th Century. He constructed a dance hall and a boarding house. By the 1920s, there were approximately 65 families in the area; most of them were involved in farming (Massey 2014). Hileman sold some downtown property to James and Kate Riggs who constructed a store and a gas station (Massey 2008) on it.

In 1942, John T. Floore arrived in Helotes and leased the grocery store from James Riggs (Massey 2008). In 1946, Floore purchased property in downtown Helotes and opened a music venue and café which he named the John T. Floore Country Store. The venue is listed as a Texas Historic Landmark on the National Register of Historic Places (Massey 2008). Floore wanted to provide a way station between San Antonio and Bandera for fans of Country music. Floore lined up musicians to come and play, most often just for tips (Rodemann 2004). Over the years, more and more people would come to eat the homemade bread and tamales, sipping cold Lone Stars, and listening to various bands.

Willie Nelson played early on in his career at the County Store (Rodemann 2004). John T. Floore contracted with Willie to come and play at least once a month at the venue. Other Country greats that

held the stage included Merle Haggard, Ray Price, Charlie Robison, Jerry Jeff Walker, and Ernest Tubb (Rodemann 2004). The venue came under new ownership just before the time of Floore's death in 1975 (Rodemann 2004). John T. Floore sold the Store to his cook, Joe Algueseva, in 1972 (Gray 2014). Algueseva and his wife ran the business until they retired in 1990 (Gray 2014). They sold the Store to Steve Laughlin who ran the business for twelve years. In 2002, Laughlin sold the Country Store to a group of investors led by Mark McKinney (Gray 2014). The John T. Floore Country Store continues to serve good food and music for the general public.

Previous Archaeology

No sites, including any listed on the National Register of Historic Places (NRHP) or designated as State Antiquities Landmarks (SALs), occur within the boundaries of the APE (THC 2014). There is one historical marker located along SH-16 within the project boundaries. Although there are no archaeological sites recorded within the APE, there are ten sites that have been recorded within a one mile radius of the project area (41BX70, 41BX488, 41BX489, 41BX490, 41BX491, 41BX492, 41BX678, 41BX902, 41BX1736 and 41BX1742) (THC 2014) (**Figure 3-1**). In addition to the ten sites within the one mile radius, there are three historical markers and one National Register property within the one mile radius. Site 41BX70 is an Archaic chipping station that was recorded in 1971 as part of the Helotes Survey Project. Artifacts encountered included cores, preforms, and lithic flakes (primary and secondary). The site was destroyed by residential construction in 2007. Site 41BX488 was a possible 19th century stage coach stop recorded in 1978. Artifacts were eroded out on the surface and the structure was badly deteriorated. Historic artifacts encountered included metal objects, and glass and ceramic sherds (THC 2014). Site 41BX489 was a lime kiln likely producing lime for mortar. At the time of the site recording (1978), the kiln was in good condition. It was recorded as being a 25 ft x 25 ft square structure (THC 2014).

Figure 3-1. Archaeological sites, Historical Markers and National Register Properties within a one mile radius of APE.

Site 41BX490 is a historic cemetery with approximately 15 depressions and mounds. Site 41BX491 is a burnt rock scatter recorded in 1978. Artifacts observed included burned rocks, a lithic scatter including interior and pressure flakes and a few exhausted cores. A 2007 revisit identified materials dating to the Early, Middle, and Late Archaic sub-periods. Site 41BX492, with an unknown temporal affiliation, is a prehistoric lithic scatter documented in 1978 near Scenic Loop Road and Helotes Creek. Artifacts observed included tertiary flakes and expended cores. It might have been either a workshop or a campsite. Site 41BX678 was recorded in 1985. It consisted of a burned rock midden that appeared to have been looted at an earlier date. Artifacts observed included fire-cracked rock, chert flakes and rabdotus shells. It is also a possible Archaic Period site. Site 41BX902 was recorded in 1990 after local avocational archaeologists encountered someone digging at the site in search of "arrowheads". The site contained a burned rock midden, although the midden was damaged by road construction. Some flakes were also noted on the surface. Site 41BX1736 is a burned rock midden that was partially exposed by erosion. Artifacts noted on the surface included tertiary flakes, pressure flakes and one side scraper. A shovel test revealed artifacts extending to at least 60cmbs. Site 41BX1742 was a hearth feature exposed by the construction of a SAWS waterline in 2007. The temporal affiliation of the hearth was not determined. Artifacts recovered include tertiary flakes, a scraper and fire cracked rocks. Even though a portion of the hearth was destroyed by the installation of the SAWS line, the recorder believed that the eastern portion pf the site might still have been intact (THC 2014). The one Historical Marker within the APE commemorates the original town of Helotes.

The three Historical Markers located in the 1-mile radius of the APE commemorate three nearby historic properties, namely: the Marnoch Homestead, the Gugger Homestead, and the John T. Floore Country Store. The National Register property recorded in the vicinity of the APE is the Floore's Country Store. The Marnoch Homestead was purchased by Dr. George Frederick Marnoch in 1858 from Thomas Define and Francise Giraud who bought the land from John M. Ross in 1852. Ross had acquired title to the land in 1836 when he purchased the rights to a Republic of Texas land grant from Almazon Huston (THC 2014).

The Gugger Homestead was established in 1881 by Arnold Gugger with a saloon, blacksmith shop and general store. It was then sold to Wilbert Hileman in 1908 and changed hands many times after that (THC 2014). The John T. Floore Country Store was founded in 1945 when Floore purchased the land for the store. The store wasn't constructed until 1946. Upon completion, it offered a variety of services including a bar, café, dance hall, grocery and meat store, and a real estate office (THC 2014).

Chapter 4: Methods of Investigation

Field Methods

The field investigation consisted of a 100% pedestrian survey accompanied by shovel testing. Shovel tests were excavated at a rate of 16 units per mile, or approximately one every 100 meters of ROW. Based on project length and the minimum standards of the Council for Texas Archaeologist (CTA), 28 shovel tests were proposed to be excavated within the ROW. If a given shovel test was positive for cultural materials, additional units were to be excavated within 15 meters in either direction along the easement until all shovel tests in the vicinity were negative.

Where feasible, shovel tests (ST) were excavated to a depth of 80 cm below surface. They ranged from 32 to 35 cm in maximum diameter and were excavated in 10 cm levels. All soil from each level was screened through 1/4-inch hardware cloth. A shovel test form was completed for each unit. The ST form included the mention of the final depth, any materials encountered in each 10-cm level, and a brief soil description (texture, Munsell color, consistency and any inclusions). The location of each shovel test was recorded using a Garmin, hand-held GPS unit. Shovel test locations were also sketched onto a current aerial map of the project area as a backup to the GPS information.

Laboratory Methods

All project related documentation produced during the survey was prepared in accordance with federal regulation 36 CFR Part 79, and THC requirements for State Held-in-Trust collections. Field notes, field forms, photographs, and field drawings were placed into labeled archival folders and converted into electronic files. Digital photographs were printed on acid-free paper, labeled with archivally appropriate materials, and placed in archival-quality plastic sleeves. All field forms were completed in pencil. Ink-jet produced maps and illustrations were placed in archival quality plastic page protectors to prevent against accidental smearing due to moisture. A copy of the report and all digital materials were saved onto a CD and stored with field notes and documents. All project related documentation is permanently housed at the Texas Archeological Research Laboratory (TARL).

Chapter 5: Results of Investigations

On November 24th and 25th 2014, **RKEI** performed a pedestrian survey of a 1.72 mile-long section of the SH-16 ROW that is slated for the installation of water and sewer lines in Helotes, Texas. The survey consisted of the visual inspection of the ground surface for any cultural materials and the excavation of 26 STs along the APE at approximately 100 meter intervals (**Figure 5-1**). The original SOW called for the excavation of backhoe trenches (BHTs). However, due to the heavily impacted project area, and the lack of deep soils, no BHTs were excavated. No surface-exposed or buried features were encountered within the APE and no prehistoric or historic artifacts were discovered during shovel testing.

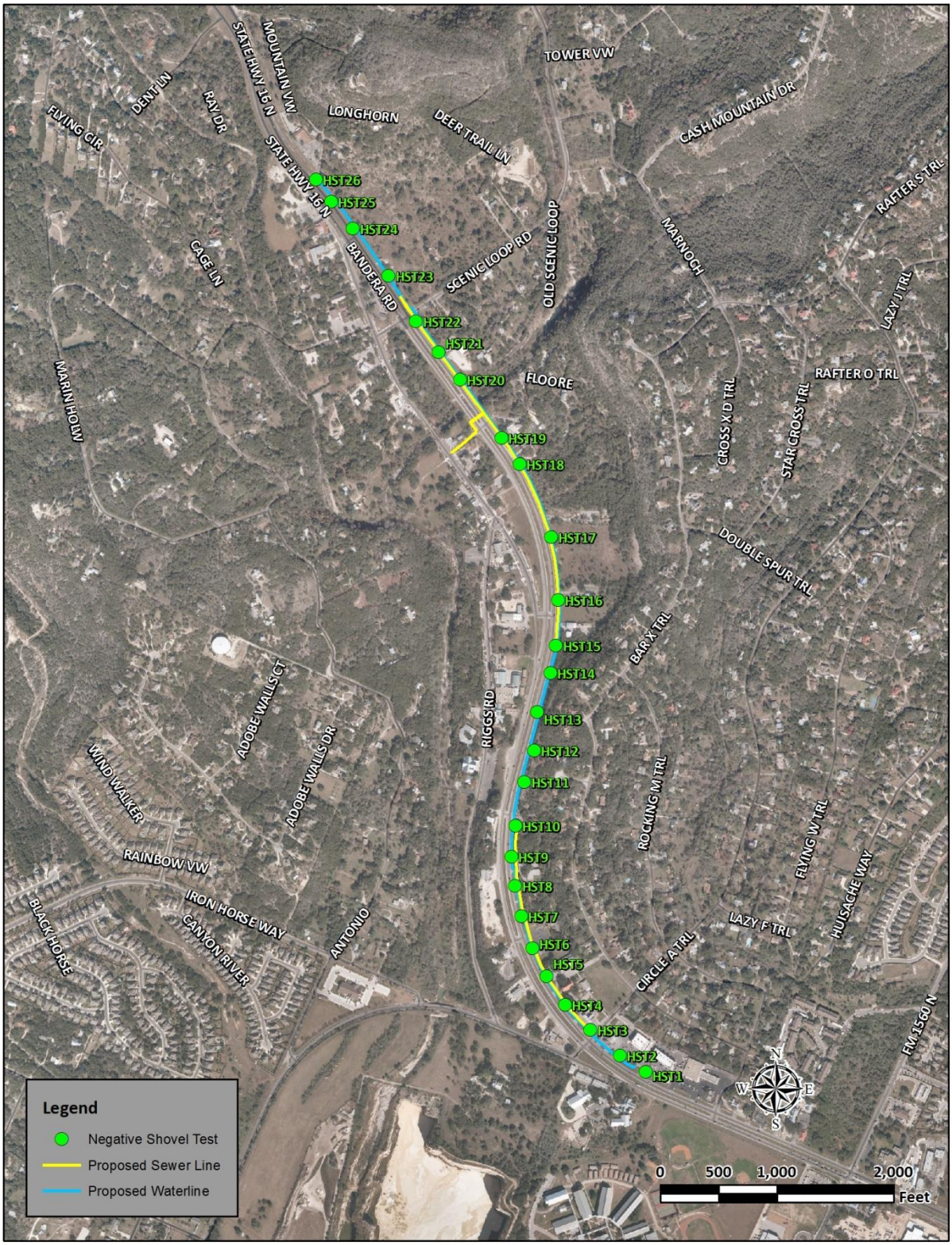

Figure 5-1. Locations of the excavated shovel tests.

During the survey, many areas were noted to be heavily disturbed by the installation of driveways and cement culverts, especially toward the southern end of the APE (**Figure 2-1**). Areas of exposed bedrock were also noted throughout the project area (**Figure 5-2**). The two shovel tests (ST 21 & 25) excavated near Helotes Creek (**Figure 5-3**) encountered road base and were halted at 38cmbs and 28cmbs, respectively. Due to the shallowly buried bedrock and the lack of deep soils throughout the APE only two STs reached the targeted depth of 80cmbs (ST 6 & 14), (**Table 5-1**) and two STs were not excavated due to exposed bedrock at the targeted locations and their vicinity.

The shovel tests excavated at the southern edge of the APE exposed loamy clay soils that contained a reddish hue (**Table 5-2**). This portion of the APE was heavily developed and contained several driveways and concrete drainages. These soils appear to have been introduced to the area as part of the aforementioned construction activities.

Further north along the project APE dramatic alterations were evident along the easement. The shoulders of the road appear to have been cut into the natural limestone leaving a narrow section between the roadway and the wall of bedrock. However, it was unclear whether the grading extended to the edge of the project easement or terminated outside of it. Soils encountered in these areas consisted mainly of dark brown to black clays that exhibited high plasticity. These soils were very moist due to recent rains and were very sticky. The soils were thin and likely of recent introduction to the area due to the cut into the bedrock along the shoulder of the highway.

Deeper soils were encountered in areas that were not immediately adjacent to the cut bedrock. These also consisted of moist, sticky clays that exhibited high plasticity and ranged in color from very dark brown to black in color. The shovel tests in these areas were excavated, on average, to a depth of 50 cm below surface (see STs 13-19) before encountering bedrock.

Subsurface investigations along the northern portion of the APE also appeared to have encountered soils that had been disturbed due to construction activities. Colors and textures varied from loamy yellowish brown clay, to sticky very dark brown clay. Pockets of highly disturbed soils were noted within areas that exhibited yellowish brown (ST 20) and reddish yellow soils (ST 25) that contained high percentages of gravels.

Figure 5-2. Example of exposed bedrock along the ROW.

Figure 5-3. View of easement west of SH-16.

Table 5-1. Shovel Tests Excavated within the APE.

Shovel Test Number	Terminal Depth (cm)	Reason for Termination
1	33	Metal Conduit Pipe
2	54	Bedrock
3	49	Bedrock
4	50	Bedrock
5	30	Bedrock
6	80	End of ST
7	23	Bedrock
8	15	Bedrock
9	17	Bedrock
10	17	Bedrock
11	19	Bedrock
12	12	Bedrock
13	49	Bedrock
14	80	End of ST
15	68	Bedrock
16	60	Bedrock
17	12	Bedrock
18	30	Bedrock
19	53	Bedrock
20	25	Heavy Gravel
21	38	Road Base
22	27	Bedrock
23	30	Heavy Gravel
24	52	Bedrock
25	28	Road Base
26	32	Bedrock

Table 5-2. List of Soil Colors by Shovel Test and Level.

Shovel Test	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
1	7.5YR3/2	7.5YR3/2	7.5YR2.5/1	7.5YR2.5/1				
2	2.5Y2.5/1	2.5Y2.5/1	2.5Y2.5/1	2.5Y2.5/1	2.5Y2.5/1	2.5Y2.5/1		
3	7.5YR3/2	7.5YR3/2	7.5YR3/2	2.5YR2.5/2	2.5YR2.5/2			
4	10YR2/1	10YR2/1	10YR2/1	5YR2.5/2	5YR2.5/2			
5	7.5YR2.5/2	7.5YR8/4	7.5YR8/4					
6	10YR5/4	10YR5/4	10YR5/4	10YR5/4	10YR5/4	10YR5/4	10YR5/4	10YR5/4

7	7.5YR3/2	7.5YR3/2	7.5YR3/2					
8	7.5YR2.5/2	7.5YR2.5/2						
9	7.5YR2.5/2	7.5YR2.5/2						
10	7.5YR3/2	7.5YR3/2						
11	7.5YR3/1	7.5YR3/1						
12	7.5YR2.5/2	7.5YR2.5/2						
13	10YR5/6	10YR2/1	10YR2/1	10YR2/1	10YR2/1			
14	7.5YR2.5/1	7.5YR2.5/1	7.5YR2.5/1	7.5YR2.5/1	7.5YR3/2	7.5YR3/2	7.5YR5/6	7.5YR5/6
15	7.5YR2.5/2	7.5YR2.5/2	7.5YR2.5/2	7.5YR2.5/2	7.5YR4/4	7.5YR4/4	7.5YR4/4	
16	10YR2/2	10YR2/2	10YR2/1	10YR2/1	10YR2/1	10YR2/1		
17	7.5YR2.5/2	7.5YR2.5/2						
18	10YR3/3	10YR2/2	10YR2/2					
19	7.5YR2.5/2	7.5YR2.5/2	7.5YR2.5/2	7.5YR4/4	7.5YR4/4	7.5YR4/4		
20	10YR2/1	10YR5/4	10YR5/4					
21	7.5YR2.5/2	7.5YR2.5/2	7.5YR2.5/2	7.5YR3/2				
22	10YR3/1	10YR3/1	10YR3/1					
23	7.5YR3/3	7.5YR3/3	7.5YR3/3					
24	10YR5/4	10YR8/2	10YR8/2	10YR8/2	10YR8/2	10YR8/2		
25	7.5YR3/4	7.5YR6/6	7.5YR6/6					
26	7.5YR3/2	7.5YR3/2	7.5YR3/2	7.5YR3/2				

Chapter 6: Summary and Recommendations

In November 2014, Raba Kistner Environmental Inc. (RKEI) was contracted by LNV Engineers to conduct a pedestrian survey of a 1.72 mile easement along SH-16 in Helotes, Texas. The project consisted of the installation of a water and sewer line along the easement. A background review of the project area revealed no previously documented archaeological sites within the APE. However, there is a historical marker within the APE that commemorates the Old Town of Helotes. Although there are no sites within the APE proper, there are no fewer than ten sites that have been recorded within a one mile radius of the project area. Additionally, there are three historical markers and one National Register property within the one mile radius of the APE. Of the ten archaeology sites, seven (41BX70, 41BX491, 41BX492, 41BX678, 41BX902, 41BX1736, 41BX1742) were prehistoric habitation sites that include hearths, chipped stone tools and debitage. One site (41BX490) contained Early, Middle and Late Archaic components. The other three sites (41BX488, 41BX489, 41BX490) were historic occupations including a stage coach stop, a lime kiln, and a cemetery. The three historical markers included the Marnoch Homestead, the Gugger Homestead, and the John T. Floore Country Store. The National Register Property was the Floore's Country Store.

During the course of the present survey, 26 shovel tests were excavated within the 1.72 mile APE of SH-16. Of these, none were positive for cultural material. In addition, no surface-exposed or buried features were encountered during the course of the investigation. Many areas were previously disturbed by the installation of driveways and cement culverts. The footings of the bridge over Helotes Creek were protected by concrete aprons on both sides of the creek bed (**Figure 2-3**) and the banks themselves contained significant amounts of fill to raise the base of the bridge above flood stage. These disturbances did not permit the excavation of backhoe trenches in the single area where deep soils may have been present within the project APE. In addition, the presence of shallowly buried and surface-exposed bedrock did not allow the excavation of two shovel tests along the project easement.

The lack of cultural features and surface-exposed and buried cultural materials, combined with prior disturbances within the APE indicate that there are no undisturbed significant cultural deposits that will be impacted by the proposed projects. Therefore, **RKEI** recommends that no further archaeological investigations are warranted, and the planned improvements can proceed as scheduled. Should changes be made to the project APE, further work may be required.

References

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 Central Texas Plateau Prairie. In *From the Gulf Coast to the Rio Grande: Human Adaptations in Central, South, and Lower Pecos Texas*, by T.R. Hester, S.L. Black, D.G. Steele, B.W. Olive, A.A. Fox, K.J. Reinhard, and L.C. Bement, pp. 17-38. Research Series No. 33. Arkansas Archaeological 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.

Blair, W.F.

1950 The Biotic Provinces of Texas. *Texas Journal of Science* 2(1): pp. 93-117.

Bousman, B.C.

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 Texas. *Bulletin of the Texas Archeological Society* 66:361-400.

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

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.

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

Fox, A.A. and D.E. Fox
1967 The Classen Rock Shelter, 41BX23. Manuscript on File at the Center for Archaeological Research, The University of Texas at San Antonio.

Gray A.,
2014 "FLOORE COUNTRY STORE," *Handbook of Texas Online* (http://www.tshaonline.org/handbook/online/articles/xdf02), accessed November 24, 2014. Uploaded on June 30, 2014. Modified on September 14, 2014. Published by the Texas State Historical Association.

Five Old Missions. Franciscan Herald Press, Chicago.
1990 *Spanish Texas Pilgrimage*. 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 Archaeological 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.

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.

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.

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

Massey, C. L.,
2008 *Helotes: Where the Texas Hill Country Begin.* Old American Publishing. Houston.
2014 "HELOTES, TX," *Handbook of Texas Online* http://www.tshaonline.org/handbook/online/articles/hlh38), accessed November 24, 2014. Uploaded on June 15, 2010. Modified on June 6, 2012. Published by the Texas State Historical Association.

Mauldin, R.P. and D.L. Nickels
2001 *An Archeological Survey of Twin Buttes Reservoir, Tom Green County, Texas.* Archeological Survey Report, No. 300, Center for Archeological 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.

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.

Norwine, J.
1995 The Regional Climate of South Texas: Patterns and Trends. In *The Changing Climate of Texas: Predictability and Implications of the Future,* edited by J. Norwine, J. Giardino, G. North, and J. Valdes, pp. 138-155. Texas A&M University Press, College Station.

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.

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.

Rodemann, K.
2004 Happy Trails. In *Texas Monthly*. Originally published April 2004. http://www.texasmonthly.com/content/happy-trails-37. Accessed November 24, 2014.

Skinner, S.A.
1981 Aboriginal Demographic Changes in Central Texas. *Plains Anthropologist* 26(92):111-118.

Story, D.A.
1985 Adaptive Strategies of Archaic Cultures of the West Gulf Coastal Plain. In *Prehistoric Food Productions in North America*, edited by R.I. Ford, pp. 19-56. Anthropological Papers No. 75. Museum of Anthropology, University of Michigan, Ann Arbor.

Southern Regional Climate Center (SRCC)
2014 Electric document, http://www.srcc.lsu.edu/, accessed November 2014.

Taylor, F.B., R.B. Hailer, and D.L. Richmond
1991 *Soil Survey of Bexar County, Texas.* U.S. Department of Agriculture Soil Conservation Service. The Soil Conservation Service, Washington, D.C.

Texas Historical Commission (THC)
2014 Texas Archeological Sites Atlas, http://nueces.thc.state.tx.us/, accessed November 20.

Thoms, A.V. D.D. Keuhn, B.W. Olive, J.E. Dockall, P.A. Clabaugh an 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 Quarterly Meeting. San Antonio, TX.

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.

Web Soil Survey
2014 United States Department of Agriculture, Natural Resources Conservation Service. Electric document, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx, accessed November 19, 2014.

Weir, F.A.
1976 The Central Texas Archaic. Unpublished PhD. dissertation. Anthropology Department, 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.