An Archaeological Survey along
Upper Leon Creek, Bexar County, Texas

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Robert J. Hard and C. Britt Bousman
Principal Investigators

Texas Antiquities Permit No. 1912

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Center for Archaeological Research
The University of Texas at San Antonio
Archaeological Survey Report, No. 361 (formerly ASR, No. 274)*
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Abstract

The Center for Archaeological Research of The University of Texas at San Antonio conducted subsurface testing for cultural resources at the proposed water main installation project from Dominion Drive to Aue Road along Old Fredericksburg Road, in northern Bexar County. The project was carried out under contract with the San Antonio Water Systems (SAWS) on November 24 and 25, 1997. Five backhoe trenches were excavated to a depth of two meters within the SAWS easement. No cultural material was encountered. CAR concludes that subsurface disturbance from the proposed installation project will have no adverse affect on cultural resources and recommends that the sponsor be allowed to proceed with the project as planned.
Contents

Abstract .................................................................................................................. i
List of Figures ......................................................................................................... ii
Acknowledgments ................................................................................................. iii

Introduction ............................................................................................................. 1
Project Area Description ......................................................................................... 2
Natural Setting and Environment ........................................................................... 2
Archaeological Background and Previous Work ................................................... 2
Field Methodology ................................................................................................. 3
Survey Results ......................................................................................................... 4
Summary and Recommendations ............................................................................ 8
References Cited ...................................................................................................... 9

Figures

1. Map of the project area ....................................................................................... 1
2. Profile of the west wall of BHT 1. ..................................................................... 5
3. Profile of the west wall of BHT 2. ..................................................................... 6
4. Profile of the west wall of BHT 4. ..................................................................... 7
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Introduction

The San Antonio Water System (SAWS) contracted the Center for Archaeological Research (CAR) of The University of Texas at San Antonio (UTSA) to identify and record cultural materials that might be affected by the trenching for a proposed water main installation from Dominion Drive to Aue Road along Old Fredericksburg Road (Figure 1). The property is in a Texas Department of Transportation (TxDOT) right-of-way. The project is sponsored by SAWS, a political subdivision of the state of Texas. An archaeological

Figure 1. Map of the project area.
survey is required at the state level by the Texas Antiquities Code. The proximity of the project location to Leon Creek, a drainage with other important archaeological sites, reinforces the need for archaeological investigations.

The fieldwork was conducted by Steve A. Tomka (project archaeologist) with David Nickels (field archaeologist) assisting, on November 24 and 25, 1997. Principal investigator and co-principal investigator were Robert J. Hard and C. Britt Bousman, respectively. Tomka was responsible for report preparation. The project was conducted under Texas Antiquities permit number 1912, issued by the Texas Historical Commission Division of Antiquities Protection (THCDAP).

Project Area Description

The project area is located along Old Fredericksburg Road and runs from immediately north of Dominion Drive to Aue Road, a distance of approximately 2.1 km. Inspection of the route indicated that the north end of the line is severely impacted by previous construction activities. These impacts include Old Fredericksburg Road, buried utility lines, a railroad track, and numerous businesses and restaurants. Because of these disturbances, CAR personnel recommended, and Mark Denton of the Texas Historical Commission (THC) concurred, that archaeological investigations be limited to the stretch between Dominion Drive and the Boerne Stage Road exit ramp, on the south end of the line. This segment is approximately 1.22 km long. While this stretch of the line has also been disturbed by gas and phone line installation, road construction, and Southern Pacific railroad track construction, the existing TxDOT right-of-way is somewhat wider here and the chances of locating undisturbed deposits greater than in the northern half of the line. The SAWS easement is approximately three meters wide at its southern end adjacent to Dominion Drive, and 1.5 m wide farther to the north. It runs immediately next to Old Fredericksburg Road.

Natural Setting and Environment

The project area is located in the southern fringe of the Edwards Plateau Balcones Canyonlands natural subregion of Texas (LBJ School of Public Affairs 1978). The landscape is dissected by numerous high-gradient streams in steep-sided canyons that flow south and southeast to the Gulf of Mexico (Riskind and Diamond 1988:1). These streams would have provided ideal locations for prehistoric valley-bottom seasonal camps.

The present-day vegetation consists of mixed evergreen-deciduous woodlands along the edge of the escarpment, grading into deciduous woodlands, and finally into forest in riparian and deep canyon settings (Van Auken 1988, 1993; Van Auken and Bush 1988). Prior to European settlement, the vegetation setting along the southeastern border of the Edwards Plateau was predominantly grasslands with woodlands and forests limited to hillsides and deeply incised limestone canyons (Weniger 1988). The mixture of grasslands and riparian forests, in addition to the nearby Blackland Prairie, would have provided prehistoric inhabitants of the region with ample game and edible plant resources.

The immediate project area is located within the Leon Creek floodplain. The west bank of Leon Creek ranges from approximately 100–150 m away from the project area. The soils are part of the Tarrant-Brackett association (Taylor et al. 1962) and consist of the Lewisville Series silty clays. They are common on nearly level terraces above the floodplains of larger creeks and rivers. The solum ranges from 20–60 inches in depth (Taylor et al. 1962:113) and thus has a strong potential to contain buried components.

Archaeological Background and Previous Work

Although Bexar County contains one of the largest number of sites excavated in any county in the state, the cultural history and chronology of the area continues to be debated (Black 1989; Collins et al. 1990; Johnson 1995). Nonetheless, archaeological excavations within the county and its vicinity (Hester 1995)
have unearthed remains belonging to all three major
time periods identified across the state: Paleoindian
(ca. 11,000–8000 B.P.), Archaic (ca. 8000–1150 B.P.),
and Late Prehistoric (ca. 1150–350 B.P.).

The project area itself is located within the Nueces-
Guadalupe Plain biogeographical area of the South Texas Plain (Black 1989:39–40). Because of the con-
centration of springs and streams along the Balcones
Escarpet, the region has been a favored camping
place throughout prehistory (McKinney 1981; Story
1985), particularly during Hester’s (1995) Early
Archaic period (see Tomka et al. 1997). Previous work
along Leon Creek in the broad vicinity of the project
area includes an avocational archaeological survey by
Paul McGruff and Bill Faucett in 1970; a rescue
excavation of a burial by South Texas Archaeological
Association (STAA) members in 1990; a preliminary
reconnaissance conducted by Uecker (1992); a survey
of upper Leon Creek terraces by Tennis and Hard
(1995); and testing of 41BX47, an Early and Middle
Archaic period site (Tennis 1996). An additional
project of great potential significance to our knowl-
edge of Paleoindian lifeways is the excavation of
41BX52 (Henderson and Goode 1991) by TxDOT.
The avocational survey, the TxDOT excavations and
the CAR projects were conducted approximately eight
kilometers south of the project area. They document
the heavy exploitation of Leon Creek and its environs
during prehistoric times.

The archaeological project closest to the present
project area was the rescue excavation of a prehistoric
burial by Ray Smith and other STAA members. It took
place at a site located approximately 0.6 km south of
Dominion Drive on the west side of IH-10. The burial,
an adult male, was recovered from a terrace of Leon
Creek. Although not impacted in the bones, an
Edwards projectile point was recovered in association
with articulated lumbar vertebrae (Meissner 1991).
Based on skeletal elements recovered during the rescue
excavations and the presence of other pit features, it
was assumed at the time that additional burials were
present at the site.

In assessing the potential for archaeological remains
within the project area, we need to consider not only
the previous work, but also broader archaeological
patterns and research issues. A recently completed
planning document for archaeological work in the Rio
Grande Plains provides a summary of broader archaeo-
logical patterns useful in considering the present work
along Leon Creek (Tomka et al. 1997).

Prehistoric archaeological sites are common on creek
and streams terraces in the Rio Grande Plains (Tomka
et al. 1997:Figure 4-8). Early Archaic sites are parti-
cularly common in these settings (Tomka et al.
1997:Figure 4-9), while Middle Archaic sites tend to
be over-represented in fossil floodplain settings, such
as abandoned channels and oxbow lakes (Tomka et
al. 1997:Figure 4-9). Given the clustering of both
edible and abiotic resources in valley bottom settings,
the archaeological property types expected in the Leon
Creek drainage could include residential camps, sites
with burials, limited activity camps, residential and
lithic procurement camps, and specialized lithic
procurement camps (Tomka et al. 1997:Figure 4-11).
It is also possible that some aspect of lithic procure-
ment (e.g., early-stage reduction of flint nodules), and
even residential occupations would have actually
occurred on stabilized gravel bars within the active
channels of chert-carrying streams (see 41BX1103,
Houk and Nickels 1997). These broader regional
patterns, in conjunction with the previous
archaeological work, reinforce the need for careful
search for archaeological remains along the Leon
Creek drainage and similar riverine settings.

Field Methodology

It was proposed that five backhoe trenches (BHTs) be
evacuated within the 1.22-km-long easement section
that had been less severely disturbed during previous
construction activities. This easement section began
at Dominion Drive and extended northward to the
Boerne Stage Road exit ramp off of IH-10 along Old
Fredericksburg Road. Although the easement was
three meters wide at its southern end in the vicinity of
Dominion Drive, it narrowed to 1.5 m along most of
its remaining length.

At the initiation of the project, Mr. Jim Shipley of
SAWS joined CAR personnel in the field to discuss
the positioning of the five backhoe trenches within
the easement. The lateral positioning of the trenches was entirely conditioned by the location of known utility lines and the eastern shoulder of Old Fredericksburg Road.

The location of the five trenches is shown in Figure 1. Each of the trenches was five meters long and 0.75 m wide. Subsurface disturbance resulting from the water main installation is to extend to a depth of no more than two meters. The trenches were excavated to a depth of 2–2.25 m below surface. Following excavation, a one-meter-long representative segment of each trench was profiled and photographed. Soil samples were collected from undisturbed levels within each trench for closer laboratory examination. Because no more than two trenches could be kept open at the same time, units were backfilled immediately following the completion of these tasks.

Survey Results

No archaeological remains were identified in any of the five backhoe trenches. Nonetheless, a significant amount was learned regarding the geomorphological history of this portion of Leon Creek.

In general, the deposits in the five backhoe trenches consist of three clearly identifiable depositional units: 1) top soil; 2) disturbed deposits; and 3) undisturbed strata. The last two of these units contain one or more soil zones (B–E).

The upper unit consists of a thin silt loam layer (Zone 1) with modern vegetation (Figures 2, 3, and 4). Zone 1 ranges from 2 (BHT 4) to 20 cm (BHT 3) in thickness.

The next depositional unit consists of two zones. The upper zone (Zone 2) is also a silt loam layer (10YR 7/6; 7.5 YR 3/4) ranging from 6 cm (BHT 2) to 82 cm (BHT 3) in thickness (see Figures 2, 3, and 4). It extends under Old Fredericksburg Road and represents road fill. Although it is thickest in BHT 3 (82 cm), it is only 6 cm (BHT 2) to 39 cm (BHT 5) thick in other units. Zone 3, the lower zone of this disturbed depositional unit, consists of sparse limestone gravels in a mottled clay to silt loam and coarse sand matrix (Figures 2, 3, and 4). The gravels range in size from granules to pebbles. The matrix is lighter in color (10 YR/2; 10/2) than Zone 2. Chunks of pavement are common throughout the zone (Figure 3). The zone ranges from 41–82 cm in thickness. It is thickest in BHT 2 (82 cm) and BHT 3 (62 cm), ranging between 41–46 cm in the other units.

The undisturbed depositional unit found below Zone 3 consists of 1–5 zones. Zone 4, the uppermost of these, ranges in composition from silt loam with gravels (BHTs 1, 2, 4, and 5; Figures 2, 3, and 4), to gravels in a coarse sandy matrix (BHT 3). The silt loam-supported gravels range in size from granules to pebbles. The coarse sand-supported gravels range in size from pebbles to cobbles. Within BHTs 1, 2, and 3, the gravelly Zone 4 ranges from 17–53 cm in thickness. In BHTs 4 and 5, the silt loam Zone 4 ranges from 22 cm (BHT 5) to 125 cm (BHT 4) in thickness.

Zone 5 was identified in three backhoe trenches, 1, 2, and 5 (Figures 2 and 3). The three examples can be divided into two subgroups. In BHT 1, Zone 5 consists of gravels supported in a reddish coarse-grained sand matrix (10YR4/6; Figure 2). The gravels range from pebbles to cobbles in maximum dimension. The zone occurs in the bottom 107 cm of the trench. The composition of this zone and the characteristics of the gravels are identical to gravel bars in the active channel of Leon Creek found some 150 m east of the trench.

In BHTs 2 and 5, Zone 5 consists of reddish (10 YR 4/3) fine- to coarse-grained sand with gravels (Figure 3). The gravels range from granules to pebbles and are relatively infrequent. The zone is 94 cm thick in BHT 2, and occurs in the bottom 77 cm of BHT 5.

Zones 6, 7, and 8 occur only in BHT 2 (Figure 3). They represent alternating lenses of gravels (Zone 6 and 8) in a sand matrix and coarse sand with few gravels (Zone 7). With the exception of the size of the gravels, the lenses dominated by gravels are similar to those noted in Zone 5 of BHT 1. The size of the gravels tends to be smaller in BHT 2, ranging from granules to pebbles. The coarse sand with few pebbles sandwiched between the gravel-dominated lenses is identical to Zone 5 found in the unit. Zone 6 is 20 cm thick while Zone 7 ranges from 13–25 cm in thickness. Zone 8, is found in the bottom 8 cm of the unit.
Figure 2. Profile of the west wall of BHT 1.
Figure 3. Profile of the west wall of BHT 2.
Figure 4. Profile of the west wall of BHT 4.
In considering the stratigraphy of the undisturbed depositional units (Zone 4 and below) of all five backhoe trenches in a north to south progression, an interesting geomorphological picture emerges. Zone 4 in BHT 4, and Zones 4 and 5 in BHT 5 consist of silt loam deposits characterized by fine- to coarse-grained sands and moderate to little amounts of clay. BHT 2, located approximately in the center of the project area, contains alternating lenses of sand with gravels (Zones 5 and 7) and granule to pebble-size gravels in sandy matrix (Zones 6 and 8). On the other hand, the two backhoe trenches (BHTs 1 and 3) at the southern end of the project area contain pebble to cobble size gravels in a coarse sandy matrix (Zones 5 and 4, respectively).

Based on the composition of these zones, and the depositional conditions necessary to generate them, it is likely that the BHTs 1 and 3 are situated in a former channel of Leon Creek. The alternating zones of sand-supported gravels and coarse sand present in BHT 2 are suggestive of depositional contexts found along the margins of active channels. Alternatively, they may represent recurrent flood episodes within a formerly active channel. BHTs 4 and 5, on the north end of the project area, revealed silt and clay loam deposits. These are more characteristic and indicative of low-energy depositional settings, such as terrace deposits fed by over-bank flooding episodes. In sum, it is possible that the five backhoe trenches provide a transect of a former Leon Creek meander, beginning with the creek channel on the south end and extending onto a former terrace on the north end of the project area.

Summary and Recommendations

CAR excavated five backhoe trenches in a narrow easement between Old Fredericksburg Road and the Southern Pacific Railroad tracks extending between Dominion Drive and the Boerne Stage Road exit ramp. The project area is located between 100–150 m west of the current active channel of Leon Creek. Although important geomorphological information was gained through the excavations, the project did not locate any cultural features or artifacts in any of the units.

As a result, CAR recommends that the sponsor be allowed to proceed as planned without additional investigations because the planned construction will have no adverse effect on cultural resources. Furthermore, we commend SAWS for their responsible efforts to identify and protect any cultural deposits which may be adversely affected by their construction efforts in an area with such high potential for buried archaeological remains.
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