



# INDEX OF TEXAS ARCHAEOLOGY

*Open Access Gray Literature from the Lone Star State*

---

Volume 2014

Article 83

---

2014

## **Intensive Archaeological Survey of the East Crystal Falls Parkway (CR 272) Improvements Project, From US 183 to US 183A, Williamson County, Texas**

Christian T. Hartnett

Abigail Peyton

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.

---

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](mailto:cdsscholarworks@sfasu.edu).

---

## Intensive Archaeological Survey of the East Crystal Falls Parkway (CR 272) Improvements Project, From US 183 to US 183A, Williamson County, Texas

Creative Commons License



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



**SWCA**<sup>®</sup>

ENVIRONMENTAL CONSULTANTS

Sound Science. Creative Solutions.<sup>®</sup>

## **Intensive Archaeological Survey of the East Crystal Falls Parkway (CR 272) Improvements Project, From US 183 to US 183A, Williamson County, Texas**

**TxDOT CSJ: 0914-05-138**

Prepared for

**Baker-Aicklen & Associates, Inc.**

Prepared by

**Christian T. Hartnett and Abigail Peyton**

Texas Antiquities Permit 5373

SWCA Cultural Resource Report No. 09-295

February 2014





**INTENSIVE ARCHAEOLOGICAL SURVEY OF THE EAST CRYSTAL FALLS  
PARKWAY (CR 272) IMPROVEMENTS PROJECT, FROM US 183 TO US 183A,  
WILLIAMSON COUNTY, TEXAS**

**TxDOT CSJ: 0914-05-138**

Prepared for

**BAKER-AICKLEN & ASSOCIATES, INC.**

507 West Liberty Avenue  
Round Rock, Texas 78664

Submitted to

**THE TEXAS DEPARTMENT OF TRANSPORTATION  
AUSTIN DISTRICT**

Prepared by

Christian T. Hartnett and Abigail Peyton

**SWCA ENVIRONMENTAL CONSULTANTS**

4407 Monterey Oaks Blvd.  
Building 1, Suite 110  
Austin, Texas 78749  
[www.swca.com](http://www.swca.com)

Principal Investigator

Mary Jo Galindo

Texas Antiquities Permit 5373

SWCA Project Number 15525-AUS  
SWCA Cultural Resources Report No. 09-295

February 2014



## TABLE OF CONTENTS

Table of Contents .....	i
Figures.....	ii
Tables.....	ii
Management Summary .....	iii
Project Area Description.....	1
Environmental Setting .....	1
Geology .....	5
Soils.....	5
Vegetation .....	5
Methods.....	5
Background Review .....	5
Field Methods.....	5
Results.....	7
Background Review .....	7
Cultural Resource Assessment.....	9
Field Survey .....	9
Summary and Recommendations .....	15
References.....	16

## Figures

Figure 1. Project location map. ....	2
Figure 2. Typical section.....	3
Figure 3. Example of typical vegetation and surface visibility within project area, facing west.....	6
Figure 4. Previously recorded sites and surveys. ....	8
Figure 5. Shovel test location map.....	10
Figure 6. Example of drainage and ditches within project area, facing east.....	11
Figure 7. Subsurface utilities within project area, facing west. ....	11
Figure 8. Overhead powerlines which parallel both sides of the roadway, facing east. ....	12
Figure 9. Location listed as an airstrip on the Leander 7.5 minute topographic quadrangle, facing north. ....	12
Figure 10. Sand and gravel operation at western end of project area, facing north. ....	13

## Tables

Table 1. Shovel Test Data.....	14
--------------------------------	----



## MANAGEMENT SUMMARY

**PROJECT TITLE:** Intensive Archaeological Survey of the East Crystal Falls Parkway (CR 272) Improvements Project, From US 183 to US 183A, Williamson County, Texas

**LOCATION:** The project is located in southwestern Williamson County roughly 1.5 miles east of the City of Leander, Texas. The project begins at US 183 and runs northeastward terminating at US 183A. The project area is located on the Leander, Texas USGS 7.5-minute topographic quadrangle map.

**PURPOSE OF WORK:** The project sponsor is fulfilling regulatory requirements in compliance with the Texas Antiquities Code and Section 106 of the National Historic Preservation Act.

**PROJECT SPONSOR:** Texas Department of Transportation

**PROJECT LANDOWNER:** City of Leander, Texas

**INSTITUTION CONDUCTING INVESTIGATION:** SWCA Environmental Consultants

**PRINCIPAL INVESTIGATOR:** Mary Jo Galindo

**SWCA PROJECT NUMBER:** 15525-AUS.

**TXDOT CSJ:** 0914-05-138

**TEXAS ANTIQUITIES PERMIT:** 5373

**PERSONNEL INVOLVED IN FIELDWORK:** Christian Hartnett (8 hours-archaeological field supervisor) and Abigail Peyton (8 hours-archaeological technician)

**PERSONNEL INVOLVED IN REPORT PREPARATION:** Christian Hartnett (32 hours-report preparation), Abigail Peyton (5 hours-report preparation) and Carol Carpenter (2 hours-cartographic work).

**PROJECT SCOPE AND SUMMARY:** The County Road (CR) CR 272 Improvements Project is approximately 1.1 miles long, 110 feet wide, and maximally 3 to 4 feet deep. The project will include a railroad crossing upgrade and other intersection, signal, and safety improvements. SWCA conducted an archaeological background review and intensive pedestrian survey of the project area to determine if any significant archaeological resources would be impacted by the proposed project.

**DATE OF WORK:** August 20, 2009.

**NUMBER OF ACRES SURVEYED:** Approximately 13.5 acres

**NUMBER OF SITES:** None.

**CURATION:** No artifacts were collected, thus nothing was curated.

**SUMMARY OF RESULTS AND RECOMMENDATIONS:** No archaeological resources were identified during the course of fieldwork. Based on these investigations, no further archaeological work is recommended for the proposed CR 272 Improvements Project.



## **PROJECT AREA DESCRIPTION**

On behalf of Baker-Aicklen, Inc., the City of Leander, and the Texas Department of Transportation (TxDOT), SWCA Environmental Consultants (SWCA) conducted an intensive linear archaeological survey of the proposed County Road (CR) 272 (East Crystal Falls Parkway) Improvements Project (CSJ: 0914-05-138) in southwestern Williamson County, Texas (Figure 1). The investigations included an archaeological background records review and an intensive pedestrian survey with shovel testing. The work was conducted in compliance with the Texas Antiquities Code under Antiquities Permit No. 5373 and Section 106 of the National Historic Preservation Act (NHPA). Mary Jo Galindo served as the Principal Investigator for the project, and Christian Hartnett and Abigail Peyton conducted the fieldwork on August 20, 2009.

The CR 272 Improvements Project begins at the intersection of US 183 and CR 272 and runs 1.1 miles northeastward to the intersection of US 183A and CR 272. The project area consists of existing CR 272 110 foot right-of-way (ROW) (roughly 13.5 acres) which has previously been acquired by the City of Leander. No new ROW will be acquired as part of this improvement project.

The proposed undertaking will improve the railroad crossing immediately east of US 183 to accommodate the expansion of the existing two-lane roadway with no shoulders, to a five lane undivided roadway with 12-foot travel lanes including curbs, gutters and storm sewers from US 183 to CR 273 (Horizon Park Boulevard), three lanes of which would be westbound at US 183. Signal improvements will be constructed at the intersection of CR 272 and CR 273. From CR 273 to US 183A, the existing two-lane roadway with no shoulders will be expanded to a Major Arterial Divided four-lane roadway (MAD 4) with two

12-foot wide travel lanes in both directions divided by a central median also including curbs, gutter and storm sewer. In addition there will be an eight-foot wide dual use (pedestrian and bicycle) sidewalk added to the north side of CR 272 and a six-foot sidewalk on the south side.

Overall, the project area of potential effects (APE) is 1.1 miles long, 100 to 110 feet wide, and 3 to 4 feet in depth, comprising approximately 13.5 acres (Figure 2).

The entire project area traverses a mostly suburban area made up of housing developments and commercial complexes. A small section, along the eastern end of the project area, retains its original agricultural/rural setting and is used as a goat pasture. The existing ROW consists of multiple road cuts, drainage ditches, culverts, driveways, and buried and overhead utilities that parallel both sides of the roadway.

## **ENVIRONMENTAL SETTING**

Located within the Brushy Creek drainage system on the Eastern Edwards Plateau, the project area traverses a generally eastward sloping upland with clayey soils. Two very minor tributaries to Block House Creek are crossed by the APE. The topography along the project area (CR 272) is relatively flat with elevations ranging from approximately 930 feet to 986 feet above mean sea level (amsl). The only significant topographic relief occurs at the western end of CR 272, beginning at the intersection of US 183 and CR 272, where the existing road descends approximately 20 feet over a distance of 800 to 1000 feet. Topographic aspect is to the south and southeast with a mean gradient of 75 feet per mile. The project area is located within the Block House Creek drainage watershed and is within the contributing zone of the Edwards Aquifer.

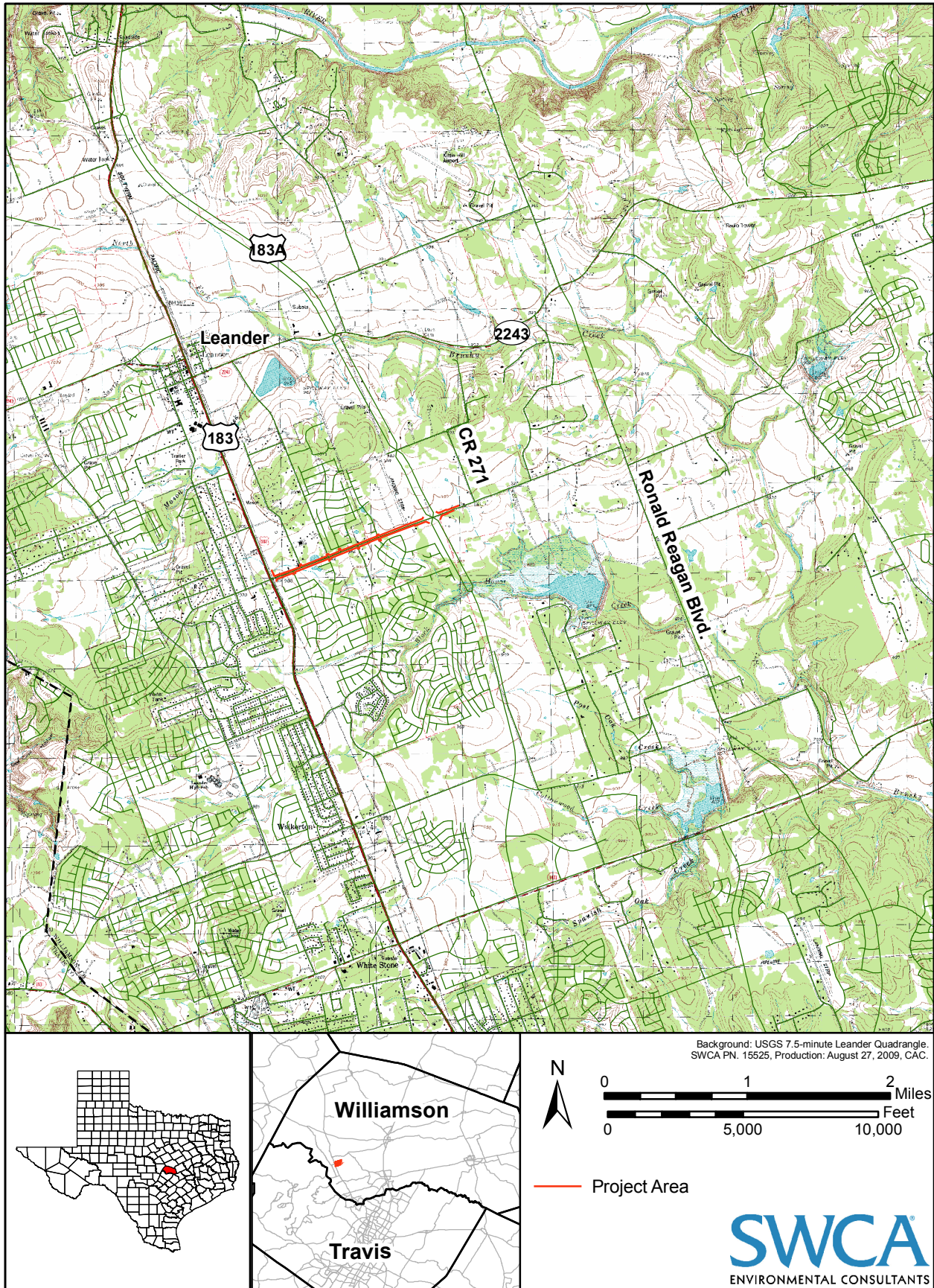
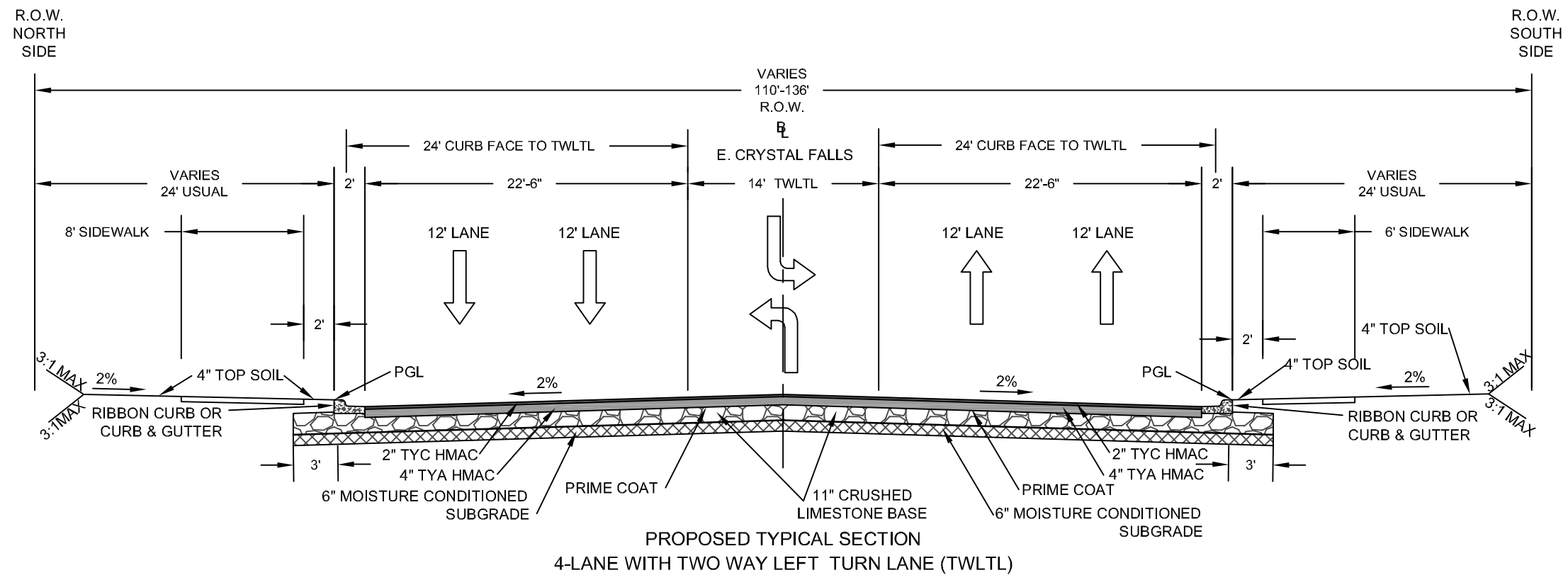
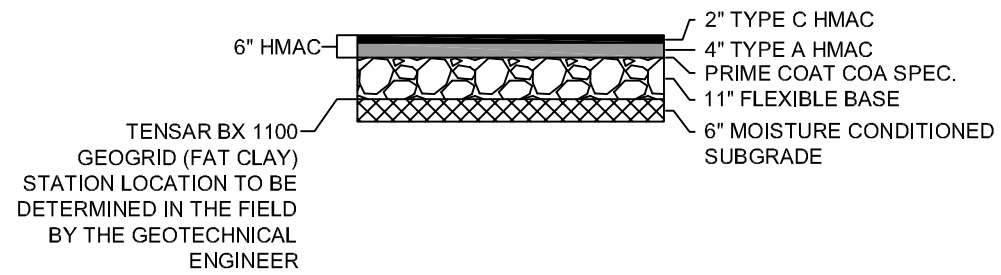


Figure 1. Project Location Map.



N.T.S.

U.S. 183 TO C.R. 273  
STA. 2+00.00 TO 23+72.34

EAST CRYSTAL FALLS PARKWAY PHASE 2  
JULY 16, 2009

**BAKER-AICKLEN & ASSOCIATES, INC.**  
Engineers • Surveyors • GIS • Planning

507 WEST LIBERTY AVENUE  
ROUND ROCK TEXAS 78664  
(512) 244-9620  
ENGINEERING FIRM # F-45  
SURVEY FIRM # 100231-D

ROUND ROCK - CEDAR PARK - SAN MARCOS - GEORGETOWN

PROJECT # 0674-2-009



## ***GEOLOGY***

Geologically, the CR 272 project area is in Lower Cretaceous Comanche Peak Limestone and Keys Valley Marl formations which are made up of limestone and marl (Barnes 1992). The Comanche Peak Limestone is a fine grained, hard, nodular limestone that is frequently and extensively burrowed. The formation is typically up to 80 feet thick, and is often seen outcropping in scarp faces under the Edwards Limestone. It feathers out southward near the Williamson-Travis County line. The Keys Valley Marl is a soft white fossiliferous marl containing abundant megafossils such as *Exogyra texana*, *Gryphaea mucronata* and other pelecypods, gastropods, and ammonites. The formation is up to 50 feet thick and like the overlying Comanche Peak, feathers out to the south near the Williamson-Travis County line.

## ***SOILS***

The soils traversed by the project are a mixture of moderately deep to shallow, calcareous clayey soils formed on uplands belonging to the Denton-Eckrant-Doss soil map unit (Werchan and Coker 1983). These Denton-Eckrandt-Doss soils occur as moderately deep to shallow stony and cobbly soils formed in indurated fractured limestone environments. They typically have a surface layer that is very dark gray to dark brown silty clay, 9 to 33 inches thick, underlain by a calcareous silty clay or indurated limestone. Most of the soils making up this unit are used as rangeland.

## ***VEGETATION***

The project area lies in the Edwards Plateau, within the Balcones Canyonlands, and is dominated by mixed plateau live oak (*Quercus fusiformis*), Ashe juniper (*Juniperus ashei*) woodland with common prickly pear cactus (*Opuntia lindheimeri*) and mixed grasses. In

addition, much of the project area has now been landscaped and features manicured lawns as a result of the construction of nearby housing developments (Figure 3). As a result of this mixture of natural, artificial, and disturbed surface cover, surface visibility throughout the project area ranges from approximately 0 to 100 percent.

## **METHODS**

### ***BACKGROUND REVIEW***

SWCA performed a background literature review to determine if the project area had been previously surveyed for cultural resources or if any previously recorded archaeological sites are located within or adjacent to the project area. To conduct this review, an archaeologist reviewed the Leander, Texas USGS 7.5-minute topographic quadrangle map at the Texas Historical Commission (THC) and the Texas Archaeological Research Laboratory (TARL) and also searched the THC's Texas Historic Sites Atlas and site files at TARL. These sources provided information on the nature and location of previously conducted archaeological surveys and previously recorded cultural resource sites.

### ***FIELD METHODS***

The archaeological survey included SWCA archaeologists inspecting the approximate 1.1-mile long APE through both pedestrian and subsurface investigations. The pedestrian survey consisted of walking the project area in systematic transects while the subsurface explorations were shovel tests placed in areas that had the potential for buried cultural deposits. Specifically, the shovel tests were judgmentally placed in areas of low ground surface visibility and/or high site probability such as prominent landforms.





Figure 3. Typical vegetation and surface visibility within project area, facing west.



Shovel testing was the primary means of sub-surface exploration in the APE, as very few erosional profiles or changes in topography were noted within the surveyed area. The THC's survey standards for linear projects mandate 16 shovel tests per mile for a 100-foot wide ROW, as outlined in 13 TAC 26.20. As the majority of the APE was judged to be of low probability for containing intact sub-surface archaeological deposits (see below), the field investigations primarily utilized the pedestrian survey to locate archaeological sites within the APE. Shovel testing was extremely limited and only included locations that met certain environmental conditions. Specifically, shovel testing was performed (1) in areas where surface artifacts were discovered, (2) in or near previously recorded archaeological sites, (3) adjacent to natural drainages (including relict channels), (4) on topographic high points, which the background review determined commonly contain archaeological sites, and (5) areas believed to contain undisturbed soils.

Where conducted, shovel tests were approximately 30 cm in diameter and excavated in arbitrary 20-cm levels to 100 cm below surface or culturally sterile deposits, whichever came first. The matrix from each shovel test was screened through ¼-inch mesh, and the location of each excavation was plotted using a hand-held GPS receiver. Each shovel test was recorded on a standardized form to document the excavations. During the survey of the project area, the archaeological crew photographed the environment and disturbances. Also, all available exposures were examined for the presence of cultural materials.

## RESULTS

### *BACKGROUND REVIEW*

The background literature review revealed that the project area has not been previously surveyed and that no previously recorded archaeological sites are located within or adjacent to the project area.

The review determined that three area surveys, three linear surveys and six previously recorded archaeological sites have been identified within roughly one half mile or kilometer of the project area (Figure 4).

A large area survey south of the current project area was conducted by Espey Huston & Associates in 1984 on behalf of Park Lane Development. This survey area begins just west of US 183A, 0.34 miles south of CR 272. The survey identified six archaeological sites (41WM999, 41WM616-619, 41WM623) within one kilometer of the current project area. Two of these sites were recommended for avoidance due to consideration for eligibility in the NRHP. The second area survey begins east of US 183A, 0.33 miles east of the intersection of US 183A and CR 272. This survey was conducted by PBS&J of Austin, Texas, on behalf of the Leander Independent School District in 2003. This survey found no archaeological sites within one kilometer of the project area. The third area survey was completed in 2005 by Prewitt & Associates, Inc. of Austin, Texas, on behalf of TxDOT. This survey area begins east of US 183A, 0.11 miles east of the intersection of US 183A and CR 272. This survey found no archaeological sites within one kilometer of the project area.

The first linear survey area conducted within one kilometer of the project area was completed by the Texas State Department of Highways and Public Transportation (in 1977) along US183 and encountered no sites. The

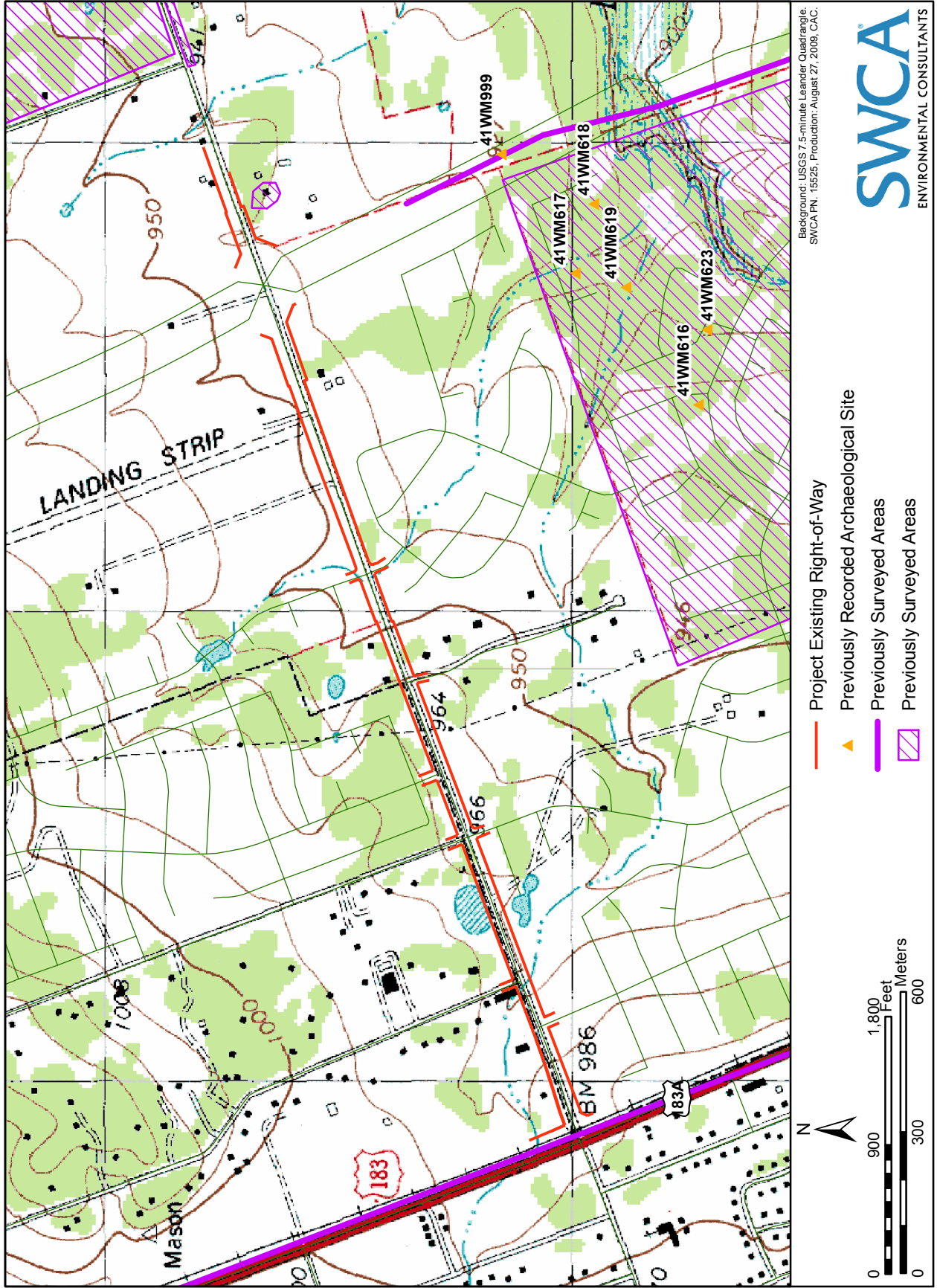


Figure 4. Previously Recorded Sites and Surveys.

linear survey south of the project area was conducted in 2001 by Prewitt and Associates of Austin, Texas, on behalf of TxDOT along the area that is now US183A. This survey area begins 0.21 miles south of the intersection of US 183A and CR 272. The survey identified one archaeological site (41WM1035) south of the project area that was not recommended for listing in the NRHP. The linear survey east of the project area was conducted in 2007 by PBS&J on behalf of Atmos Energy Corporation. This third linear survey area is located 0.36 miles east of the current project area, and 0.32 miles east of the intersection of US 183A and CR 272 and encountered no sites within one kilometer of the project area.

### ***CULTURAL RESOURCE ASSESSMENT***

Based upon the results of the back ground literature review of previously recorded sites, soils, surface geology, and current aerial images of the project area, the likelihood for intact cultural deposits within the APE is low. Aerial photographs show significant recent artificial impacts along the entire length of the project area; including a railroad crossing ditches, buried utility lines and road construction. Furthermore, the project area has historically been utilized for agricultural purposes, suggesting additional subsurface impacts across the APE.

### ***FIELD SURVEY***

The intensive pedestrian survey of the proposed CR 272 Improvements project area consisted of two SWCA archaeologists walking the entire 1.1-mile long by 110 foot wide APE. The project area and all shovel tests were contained entirely within publicly owned lands. The archaeologists inspected the extensive surface exposures, various natural and artificial profiles, and conducted shovel tests in areas to determine the presence and potential for cultural resources (Figure 5).

The existing CR 272 ROW exhibits extensive artificial impacts from road construction, utility infrastructure, and drainage features. The majority of the existing roadway contains drainage ditches that parallel both sides of the roadway (Figure 6). Buried utility lines are marked along both sides of CR 272 and an overhead power lines parallel both sides of the existing ROW (Figures 7 and 8). Additionally, a narrow strip of land that is listed as an airstrip on the Leander USGS 7.5 minute topographic quadrangle is still visible on the northeastern end of the project area (Figure 9; see Figure 4).

A gravel and sand operation is located approximately 0.33 miles east of the CR 272/US 183 intersection. This operation has caused substantial subsurface disturbances that extend into the project area (Figure 10).

Ten shovel tests were excavated in areas of low ground surface visibility and areas believed to be undisturbed (Table 1). All ten shovel tests were negative for cultural material, and ranged in depth from 10 to 30 centimeters below surface (cmbs). Soils within the shovel tests consisted of a reddish brown to black silty loam to silty clay with numerous limestone gravel and cobble-sized inclusions. In addition, several shovel tests showed significant signs of disturbance (modern debris and road construction materials within the soil profile); a direct result of active agriculture and recent development within the project area.

Areas not shovel tested or covered by impervious cover were walked in systematic transects. In general, these areas included empty lots, commercial complexes, and residential developments. where surface visibility was greater than 60 percent.

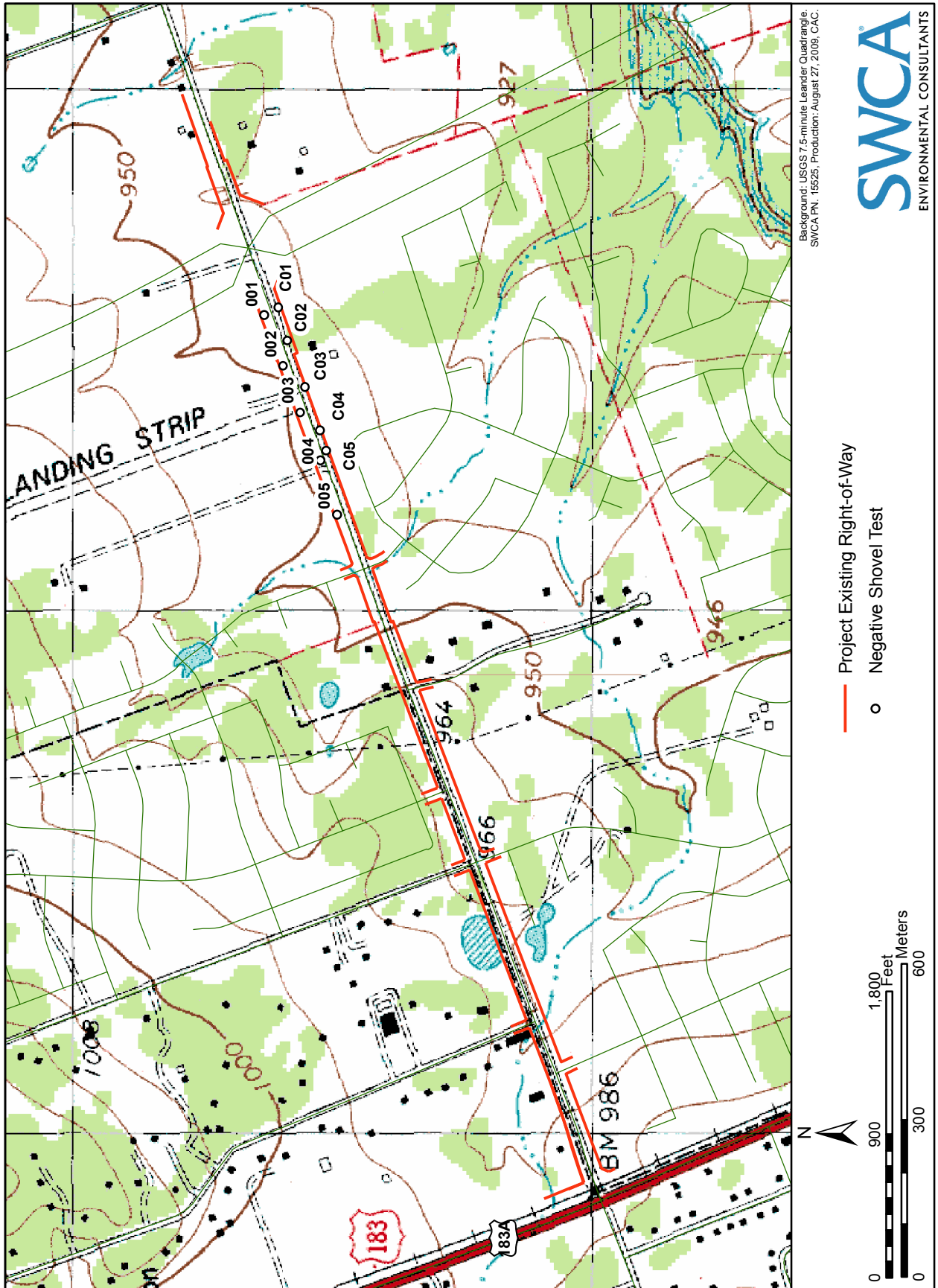


Figure 5. Shovel Test Location Map.





Figure 6. Example of drainage and ditches within project area, facing east.



Figure 7. Subsurface utilities within project area, facing west.



Figure 8. Overhead powerlines which parallel both sides of the roadway, facing east.



Figure 9. Location listed as an airstrip on the Leander 7.5 minute topographic quadrangle, facing north.





Figure 10. Sand and gravel operation at western end of project area, facing north.

**Table 1. Shovel Test Data**

Shovel Test #	Depth (cmts)	Soil Color	Soil Texture Description	Inclusions	Cultural Materials	Comments
C1	0-5	Reddish brown	Silty loam	Pebbles and gravels throughout	None	South side of road near 183A
	5-30	Tan	Silty loam		None	Area heavily disturbed
C2	0-30	Reddish brown	Silty loam	Pebbles and gravels throughout	None	South side of road
C3	0-30	Reddish brown	Silty loam	Pebbles and gravels throughout	None	Area heavily disturbed
C4	0-30	Reddish brown	Silty loam	Pebbles and gravels throughout	None	Soils very compact at base
C5	0-30	Reddish brown	Silty loam	Pebbles and gravels throughout	None	Area heavily disturbed
A1	0-10	Black	Clay loam	Limestone cobbles throughout	None	Clays very compact and rocky. North side of road
A2	0	Brown	Silty loam	Limestone cobbles	None	Limestone bedrock at surface
A3	0-20	Dark brown	Blocky clay loam	Limestone cobbles throughout	None	Fractured bedrock at base
A4	0-20	Dark brown	Blocky clay loam	Limestone cobbles throughout	None	Fractured bedrock at base
A5	0-25	Brown	Silty clay	Limestone cobbles throughout	None	Clay increasingly compact with depth



## **SUMMARY AND RECOMMENDATIONS**

On behalf of Baker-Aicklen, Inc., the City of Leander, and the TxDOT, SWCA conducted an intensive linear survey of the proposed 1.1-mile CR 272 Improvements Project (CSJ: 0914-05-138) in Williamson County, Texas.

The work was done to determine whether the proposed undertaking would affect significant cultural resources in compliance with the Texas Antiquities Code under Antiquities Permit No. 5373 and Section 106 of the NHPA. The work included an archaeological background records review and an intensive pedestrian survey with shovel testing.

The background literature review revealed that the project area has not been previously surveyed and that no previously recorded archaeological sites are located within or adjacent to the project area.

Furthermore, it was determined that three area surveys, three linear surveys and six previously recorded archaeological sites have been identified within roughly one half mile or one kilometer of the project area.

THC standards for a project of this size mandate a minimum of 18 shovel tests for a 1.1 mile long, 110-foot wide easement. However, it was determined that the project area has undergone significant subsurface disturbances and contains few soils that are intact. Therefore, ten shovel tests were excavated in portions of the existing ROW with low surface visibility. All shovel tests were negative for cultural material and no cultural material was noted on the surface in the APE.

No previously recorded archaeological sites are within the APE and none were identified during the present survey. In accordance with CFR 800.4, SWCA has made a reasonable and

good faith effort to identify archaeological properties within the APE. As no properties were identified that meet the criteria for listing in the NRHP according to 36 CFR 60.4, or for designation as a SAL according to 13 TAC 26.12, SWCA recommends this improvement project will have no effect on cultural properties within the APE. No further archaeological work is recommended for the project area.

## REFERENCES

Barnes, V. E.

1992 Geologic Atlas of Texas, Austin Sheet. Bureau of Economic Geology, The University of Texas at Austin.

Werchan, L. E., and J. L. Coker

1983 *Soil Survey of Williamson County, Texas*. Soil Conservation Service, U.S. Department of Agriculture, Washington, D.C.