

ANTIQUITIES PERMIT APPLICATION FORM ARCHEOLOGY

GENERAL INFORMATION

I. PROPERTY TYPE AND LOCATION

Project Name (and/or Site Trinomial) National Register of Historic Places Eligibility Testing of Site 41WM1398 for the Corridor C/State Highway 29 Bypass Project Williamson County, Texas
 County (ies) Williamson County
 USGS Quadrangle Name and Number Weir, Texas (3097-314)
 UTM Coordinates Zone 14N E 635013 N 3390488
 Location Project is approximately 5 miles (8 kilometers) east of Georgetown, Texas
 Federal Involvement Yes No
 Name of Federal Agency U. S. Army Corps of Engineers-Fort Worth District
 Agency Representative James Barrera

II. OWNER (OR CONTROLLING AGENCY)

Owner (Controlling Agency) Williamson County
 Representative Bill Gravel Jr., County Judge
 Address 710 South Main Street, Suite 101
 City/State/Zip Georgetown, Texas 78626
 Telephone (include area code) 512-943-1550 Email Address _____

III. PROJECT SPONSOR (IF DIFFERENT FROM OWNER)

Sponsor Same as above
 Representative _____
 Address _____
 City/State/Zip _____
 Telephone (include area code) _____ Email Address _____

PROJECT INFORMATION

I. PRINCIPAL INVESTIGATOR (ARCHEOLOGIST)

Name same Laura I. Acuña
 Affiliation Atkins North America, Inc.
 Address 15900 La Cantera Parkway, Suite 26200
 City/State/Zip San Antonio, Texas 78256
 Telephone (include area code) 210-828-9494 Email Address Laura.Acuna@atkinsglobal.com

(OVER)
ANTIQUITIES PERMIT APPLICATION FORM (CONTINUED)

II. PROJECT DESCRIPTION

Proposed Starting Date of Fieldwork June 2019
Requested Permit Duration 5 Years 0 Months (1 year minimum)
Scope of Work (Provided an Outline of Proposed Work) National Register of Historic Places eligibility Testing of site 41WM1398 within proposed drill shaft area for bridge. Approximately, three trenches and six 1-m-x-1-m hand excavation units or combination of 1-m-x-1-m units or 50-cm-x-50-cm for a minimum of 7.2 cubic meters of soil excavated. In addition, additional shovel testing in areas where the project limits have changed after the initial interim report was submitted.

III. CURATION & REPORT

Temporary Curatorial or Laboratory Facility Atkins, SNC-Lavalin Archeology Laboratory
Permanent Curatorial Facility Center for Archaeological Studies at Texas State University

IV. LAND OWNER'S CERTIFICATION

I, Bill Gravell, Jr., as legal representative of the Land Owner, Williamson County, do certify that I have reviewed the plans and research design, and that no investigations will be performed prior to the issuance of a permit by the Texas Historical Commission. Furthermore, I understand that the Owner, Sponsor, and Principal Investigator are responsible for completing the terms of the permit.
Signature _____ Date _____

V. SPONSOR'S CERTIFICATION

I, same as above, as legal representative of the Sponsor, _____, do certify that I have reviewed the plans and research design, and that no investigations will be performed prior to the issuance of a permit by the Texas Historical Commission. Furthermore, I understand that the Sponsor, Owner, and Principal Investigator are responsible for completing the terms of this permit.
Signature _____ Date _____

VI. INVESTIGATOR'S CERTIFICATION

I, Laura I. Acuña, as Principal Investigator employed by Atkins North America, Inc. (Investigative Firm), do certify that I will execute this project according to the submitted plans and research design, and will not conduct any work prior to the issuance of a permit by the Texas Historical Commission. Furthermore, I understand that the Principal Investigator (and the Investigative Firm), as well as the Owner and Sponsor, are responsible for completing the terms of this permit.
Signature Laura I. Acuña Date 4/26/2019

Principal Investigator must attach a research design, a copy of the USGS quadrangle showing project boundaries, and any additional pertinent information. Curriculum vita must be on file with the Division of Antiquities Protection.

FOR OFFICIAL USE ONLY

Reviewer _____ Date Permit Issues _____
Permit Number _____ Permit Expiration Date _____
Type of Permit _____ Date Received for Data Entry _____



National Register of Historic Places Eligibility Testing of Site 41WM1398 for the Corridor C/State Highway 29 Bypass Project Williamson County, Texas Texas Antiquities Permit Research Design

Principal Investigator: Laura I. Acuña, M.A.

Background

The Corridor C/State Highway (SH) 29 Bypass Project is a Williamson County sponsored project that will consist of a new controlled access facility between Sam Houston Avenue on the west, and the Texas Department of Transportation's (TxDOT) future SH 29 facility on the east in Williamson County, Texas. The project is approximately 6.7 miles (mi; 10.8 kilometers [km]) in total length and includes the construction of a fully directional interchange located approximately 5 miles (8 km) east of Georgetown, Texas (Figure 1). The majority of the project is currently within private property. However, Williamson County is currently under the process of right-of-way purchases. In addition, Williamson County is currently seeking funding for the project from TxDOT. The result of this request will likely occur within or subsequent to the fall of 2019.

The proposed work would consist of grading for construction of roadways and bridges, and a temporary construction corridor for materials and equipment. The work will consist of drill shafts, grading activities, and boring activities. The total project length is approximately 6.7 mi (10.8 km) in length with the width ranging from 37 m (121.5 ft) to 152.2 m (499.4 ft). The depth of impacts will range from 0.9 m (3 ft) to 6.1 m (20 ft) in depth to account for grading, drill shafts, and boring activities. Thus, the area of potential effects (APE) for direct effects for the entire project is 420.53 acres (170.2 hectares) in size. Approximately 91 percent of the survey investigations have been completed, or approximately 384.68 acres (155.7 hectares). During the investigations, five new archeological sites (41WM1396–41WM1400) and one isolated find were recorded within the APE. An interim report of the completed portions of the project with recommendations was submitted to the Texas Historical Commission (THC) on April 22, 2019 under Texas Antiquities Permit 8519. As a result of consultation, the THC determined that additional investigations are needed at site 41WM1398. The site is currently on private property and will be in the process of being purchased by Williamson County during testing investigations.

41WM1398

Site 41WM1398 is a prehistoric camp site located on the southern bank of Mankins Branch at an elevation between 620 and 640 above mean sea level (amsl). The site is on a cut bank approximately 3.5 m (12 ft) above the creek. Soils at the site vary from the loamy Oakalla soils near the creek's edge, deep loamy Sunev soils at the base of the slope to the uplands, and finally to the shallow Eddy soils of clay loam over chalky limestone residuum in the uplands (USDA-NRCS 2019). The near-surface surface geology is mapped as Austin Chalk (USDI-USGS 2019).

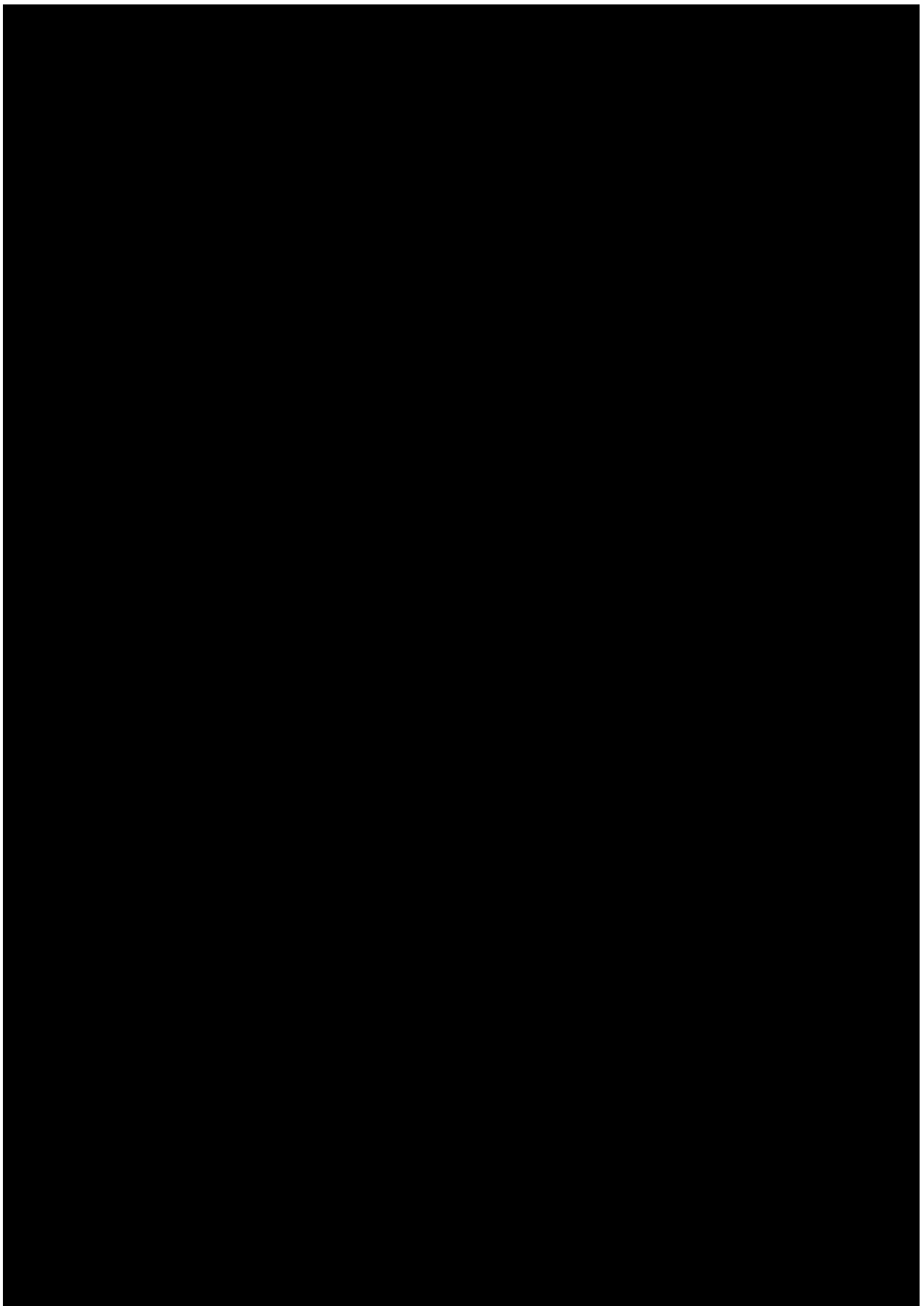


Figure 1. Project Vicinity Map.

Shovel testing at the site revealed dark brown (10YR 3/2) loamy soils nearer the creek, deep dark brown (10YR 3/2) clay loam near the slope base, and shallow light brownish gray (10YR 6/2) gravelly clay loam at the southern boundary. The vegetation consists of dense grasses and scattered live oak and hackberry trees within a cattle pasture. Ground surface visibility varied from 100 percent near the creek's edge to 0 -10 percent in the body of the site.

Visual inspection located abundant artifacts in areas with good ground surface visibility (greater than 60 percent) including the edge near the creek and smaller eroded areas. Approximately 30 artifacts within a square meter were observed along the creek edge and eroded areas. Accurate counts of artifacts elsewhere on the site were difficult to approximate due to dense grasses covering 80 percent of the site. A large amount of burned rock was eroding from the northern central portion of the site and spilling down the cut bank to the creek. Artifacts had been collected and cached by the landowner (per personal communication) in two piles at the base of an oak tree and consisted of two metates, two manos, and numerous biface fragments and modified flakes. Additional adverse impacts to the site include flooding episodes along Mankins Branch and livestock trampling on the surface.

The site size within the project APE is approximately 126 m (413.4 ft) north-south by 50 m (98.4 ft) east-west and was determined by the extent of surface artifact scatter and shovel testing. The topography of the site gradually slopes northward from an elevation of 640 amsl and slopes down to 620 amsl. Eighteen shovel tests and one 50 cm by 50 cm unit (CRS114) were excavated. Eight shovel tests and the 50 cm by 50 cm unit (CRS114) were positive with cultural material (Figure 2). The largest concentration of subsurface artifacts appears to be restricted to the eastern portion of the currently defined site boundary, below the upland rise, as defined by shovel tests KR04, LA01, SB69 at 630 to 620 amsl. The shallowest shovel test (BL118) at 50 centimeters below surface (cmbs) was excavated at the northeastern corner of the site and was negative for cultural materials. The deepest shovel tests with cultural materials were 80 cm in depth. The site overlooks the creek to the north and the examination of the cut bank along the southern edge of the creek revealed stratigraphic layers of clay loam/clay over caliche atop limestone bedrock (Figure 3). Across the length of cut bank from east to west, the clay loam/clay layer varied in depth from 50 cmbs to over 100 cmbs. The shovel tests also indicate the clay loam/clay layer is deeper between the upland landform and creek edge.

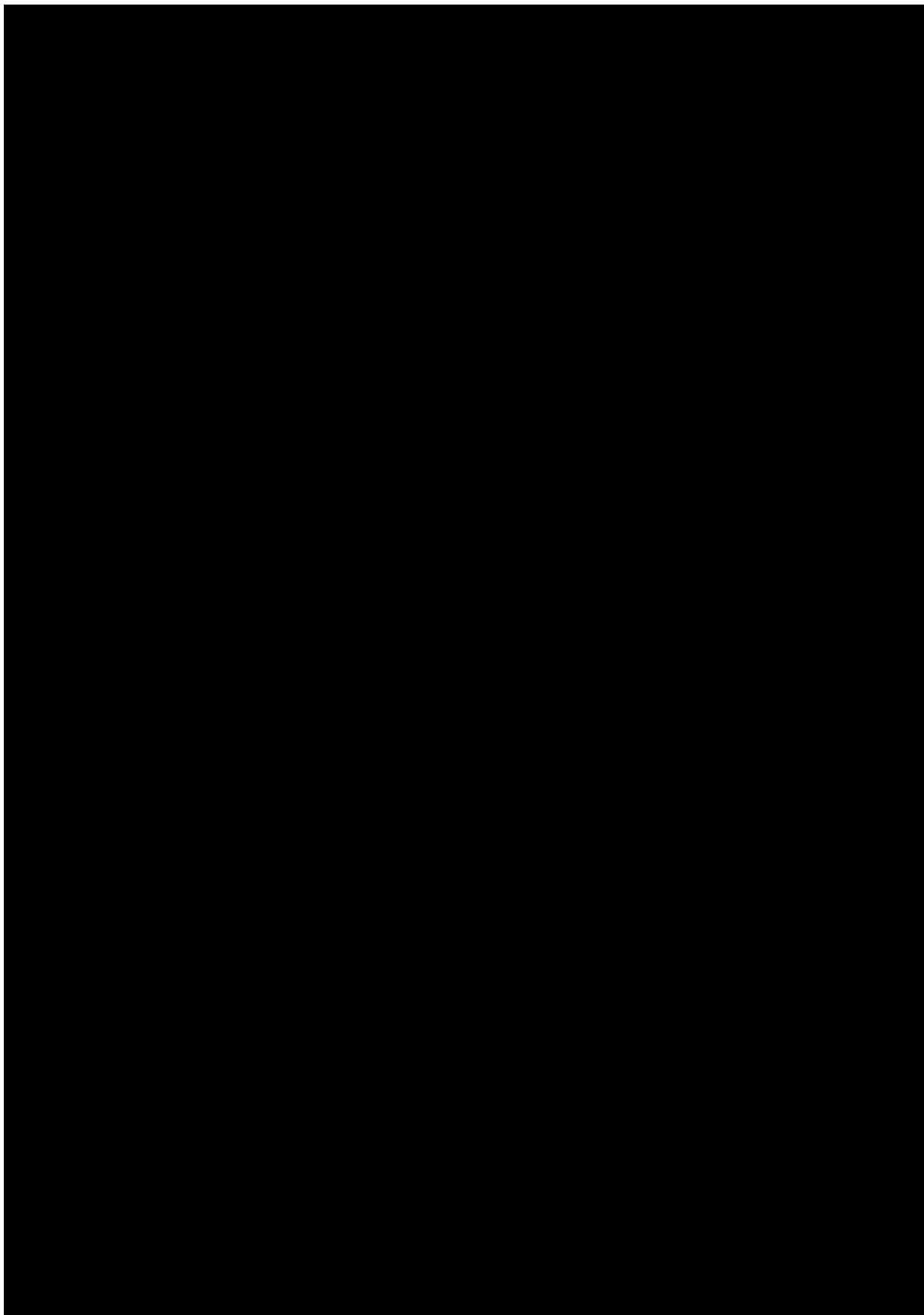


Figure 2. Site 41WM1398 Plan Map.



Figure 3. Profile view of Mankins Creek bank, facing south-southeast.

Approximately 1175 artifacts were recovered in eight shovel tests and one 50 cm x 50 cm unit from 0 to 80 cmbs. Shovel test SB69 had the most cultural materials with 322 artifacts and ranged from 0 to 80 cmbs. While burned rock was found from surface to 80 cmbs, the largest concentrations appear to be found within 20 to 60 cmbs. There was an abundance of burned rock in many of the tests, though no clearly defined feature was exposed within the conducted shovel tests. Stone artifacts found within the shovel tests include debitage of various stages (n=165), cores (n=2), a Pedernales dart point (n=1), a blade (n=1), a perforator (n=1), scrapers (n=2), bifaces (n=1), and red ochre (n=1). Organic material found in shovel tests include: carbon (n=90), bone fragments (n=28), fossilized mussel shell (n=2), mussel shell fragments (n=110), and whole rabdotus shells (n=44). The remaining approximately 720 artifacts consisted of burned rock fragments of various sizes.

The 50 cm by 50 cm unit was excavated along the southern creek bank and focused on a dense concentration of burned rock and artifact material that extended across the edge of the bank for approximately 10 to 15 m. Approximately 250 artifacts were recovered from the unit. The unit was only excavated down to 20 cmbs where the number of cultural materials dropped significantly. Stone artifacts found within the unit include debitage of various stages (n=55), a blade (n=1), a scraper (n=1), and a biface (n=3). Organic materials found include carbon (n=21), burned bone (n=4), rabdotus (n=20), and unidentified shell fragments (n=61+). No distinctive pit or basin feature was observed within the unit. However, burned rock fragments (n=133) dominated the unit with sizes ranging from 0.5 cm to 15 cm. The burned rock may represent a remnant of a burned rock midden that has been severely eroded by flooding episodes, natural erosion, and livestock impacting the upper 10 cm of surface.

Temporally diagnostic artifacts found on the site surface include two Pedernales dart points, two Darl dart points, one Nolan dart point and one Marshall dart point. One Pedernales point was recovered from a shovel test (LA 01) at 30 cmbs which may indicate possible deeper intact cultural deposits. The Pedernales, Nolan, and Marshall points date to the Middle Archaic and Late Middle Archaic periods, and the Darl point dates to the Transitional Archaic (Turner and Hester 2011). There were 15 unidentified dart point fragments observed on the surface that included seven distal fragments, six bifacial fragments, and two medial fragments. Groundstone artifacts observed on the site surface included two metates and approximately four manos or hand stones. Most of the projectile points and lithic tools were observed on the surface concentrated along the edge of the creek bank and concentrations cached by the landowner.

Although much of the surface has been adversely impacted by livestock and land clearing activities, the subsurface deposits are relatively intact and undisturbed. The vertical distribution of artifacts indicates that the greatest concentration of materials (approximately 60 percent) is between 20 to 40 cmbs. The frequency of artifact materials begins to drop off after 50 cmbs. The Pedernales dart point recovered from 30 cmbs indicates there is likely a buried Middle Archaic component at the site.

Brief Context and Research Methodology

The San Gabriel River Basin has several prehistoric sites with contexts dating to the Early Archaic through to the Late Prehistoric that have contributed to the archeological record of Central Texas. The Central Texas archeological area is represented by a variety of site types in numerous settings with distinctive cultural phases, features, and artifacts (Collins 2004). The sites and material culture of the Archaic period indicates that foraging and hunting of local resources was intensified and represented by the increased use of heated rocks. The exploitation of small game, fish, deer, nuts, berries, and root foods provided a well-rounded subsistence base. Material type styles in the Early Archaic include Angostura dart points, Martindale-Uvalde dart points, and split-stem dart points. The use of heating stones shifted from heating elements or small hearths to large burned rock middens during the Middle Archaic suggesting long-term occupations, intensive use, or both (Collins 2004). The use of middens correlates with the xeric climate conditions that occurred during the Middle Archaic, causing groups to expand their subsistence strategies to utilize xerophytes that require longer cooking periods. The dart point styles represented during this period include Bell, Andice, Calf Creek, Taylor, Nolan and Travis

dart points. The use of burned rock middens continues through the Late Archaic with material type styles consisting of Pedernales, Marshall, Montell, Castroville, Frio, and Ensor dart points.

The proposed excavations will attempt to answer research questions that would determine the significance of the site based on the chronology above. Because of the restricted, narrow portion of the site that will be impacted and excavated, Atkins recommends investigations and analysis focus on the following:

1. Does the excavated portion of the site contain intact, stratified deposits with materials and features to adequately determine and assess distinctive, well-defined cultural components?
2. Are the findings and materials of the excavated portion of the site representative of the region compared to other prehistoric sites (at minimum two) within the San Gabriel River Basin?

Because a burned rock feature was observed on the surface, the excavations will be conducted to determine if there are additional intact, buried features that may provide organic material that can be dated. Along with the assessment of excavation profiles, analysis of lithic tools, and radiocarbon dating, Atkins will attempt to define distinct cultural components within the proposed impact area of the site. In addition, the recovery of any floral and faunal remains will be analyzed to offer information of utilized resources and possible subsistence strategies. Based on the findings, Atkins will cross-compare the represented samples with other sites (at minimum two) to determine its significance in relation to the San Gabriel River Basin and Central Texas archeological region.

Field Methods

Because disturbance to the site is unavoidable, the field methods are designed to determine if site 41WM1398 harbors significant data resources that meet the criteria warranting inclusion in the National Register of Historic Places (NRHP) and designation as a State Antiquities Landmark (SAL). Based on the findings, the site may include intact cultural features or deposits that maintain integrity of design and materials and are likely to yield information important to prehistory. The majority of the proposed subsurface construction activities will occur within the upper 20 cm (0.5 ft) of the site. Additional subsurface disturbances will include tree removal and drilling of the bridge piers to a maximum depth of 6 m (20 ft) below surface (Figure 4). Finally, several layers of construction fill will be added to the ground surface.

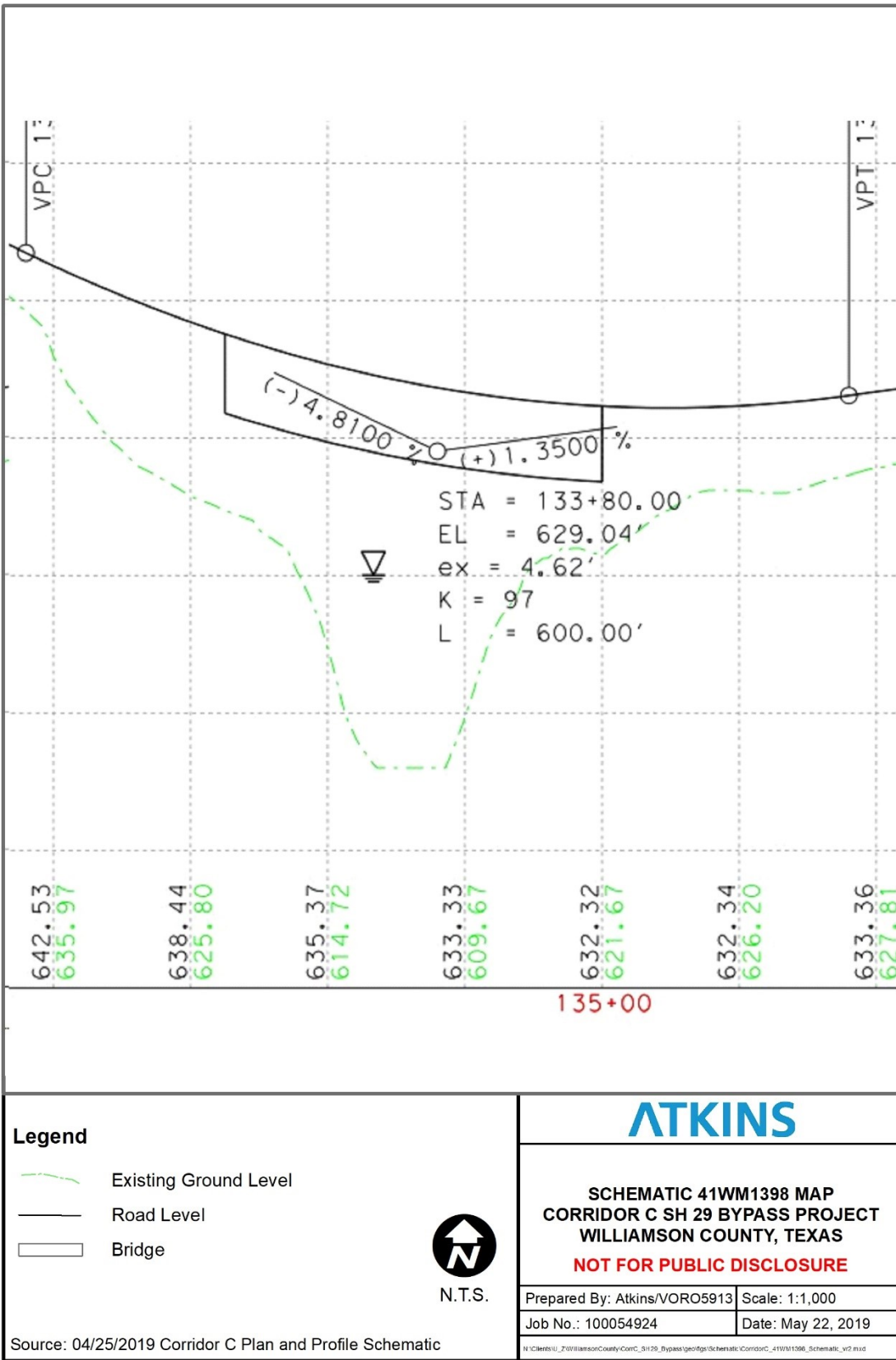


Figure 4. Project impacts profile.

Because the deepest proposed impacts to the site will occur in the 183.9 square meter (1979.6 sq ft) drill shaft area, NRHP testing investigations, consisting of backhoe trenching and intensive hand-excavation, will be focused here. Horizontal control will be maintained with a total station established over a site datum. In addition, additional shovel testing will be completed within portions of the site that have not been surveyed based on the updated APE boundaries dated to April 24, 2019. All shovel tests, trenches, and hand excavation units will be tied to the site datum with the total station. The total station will also be used to map the site's topography.

Stage 1 Mechanical Backhoe Trenching

The proposed impacts area is approximately 40 m (141 ft) long by 6 m (20 ft) wide. Due to the narrow area, the first stage will consist of three backhoe trenches, totaling approximately 36 linear meters (118 linear ft). Trenches will be monitored, and mechanical excavation will be suspended if cultural features are encountered. If it becomes necessary to enter any deep trenches, they will be stepped back in compliance with Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1926). The proposed depth of impacts for the drill shafts will exceed 1 m (3.3 ft) in depth (Figure 4). If no features are encountered, trenches will be excavated to the top of the subsoil and then the floors of the trenches will be scraped in order to identify any features intruding into the subsoil from above. Again, if no features are identified, excavation will proceed to a depth that will allow the recording of a complete soil profile. The walls will be cleaned with hand tools and closely examined to determine whether any cultural features are present. One profile drawn at 10 to 15 m intervals, depending on complexity, will be drawn of each trench and the soil will be described. The scraped floor and the entire profile of each trench will be photographed, and any features discovered will also be recorded.

Stage 2 Hand Excavations

The second stage of NRHP testing will consist of a series of hand-excavated units. The number and size of hand excavations at the site will vary depending upon the degree of preservation of the site, but a minimum of 7.2 cubic meters will be hand-excavated (six 1 x 1 m units, or twenty-four 50 x 50 cm units, or combination of the two). These hand-excavated units will be placed according to the field director's judgment, based on the results of trench excavation, to optimize recovery of artifacts, faunal and macrobotanical remains, and features. Soil samples for flotation will be taken from any intact middens or features that are located. These hand-excavated units will generally be 1 x 1 m in size and will be excavated in 10-cm levels, but they may also include 50 x 50 cm units placed adjacent to mechanical trenches excavated during stage one. They may be spread over the site individually, or they may be placed adjacent to each other to form larger block excavations. All sediment removed from hand-excavated units will be screened with ¼-inch mesh hardware cloth. Should any features be identified during the second and third stages of investigations, all will be mapped, sectioned, profiled, and a flotation sample collected from each one. If sufficient information is recovered to determine site 41WM1398 is NRHP/SAL eligible, Atkins will recommend mitigation through data recovery. Should any human remains be identified during testing, Atkins will immediately stop work and follow the guidance under the Texas Health and Safety Code.

Artifact Collection

All recovered artifacts will be transported to the Archeological Laboratory at Atkins's Austin office for analysis and preparation for curation. All artifacts will be washed, catalogued, and labeled in compliance with the Center for Archaeological Studies (CAS) standards. Recovered diagnostic artifacts and subsistence remains not retained by the private land owner will be curated with CAS. A representative sample of nondiagnostic artifacts will also be curated. Any feature matrix will be subjected to flotation in an effort to retrieve organic particles. The subsequent analyses will be determined by the nature of the material recovered from each site; but, in general, the following analytical methods will be utilized.

Analysis of lithic artifacts will follow the analysis standards outlined in the TxDOT Draft Lithic Analysis Protocol in the event the project is funded by TxDOT. Morphological characteristics of projectile points will be used to assess manufacturing techniques and identify cultural affiliation when possible. The entire lithic assemblage, including tools and debitage, will be classified into raw material categories. The analysis will focus on the artifact taxonomy of any projectile point and tools recovered from the excavations. Metric information, such as length, width, thickness, and weight, will be recorded for complete project points. Specific detailed artifact attribute analysis will not be recorded during this phase of the investigations for the site.

At minimum, the debitage will be sorted by material type, completeness (flake vs. fragment vs. shatter) then by count and weight. The recovery of animal bone may provide clues pertinent to prehistoric subsistence patterns, duration and season of occupation, utilization of bone material for tools or ornamentation, and animal population density. Analysis will seek to provide taxonomic identification of all faunal remains to the species level, or the most specific taxon possible, based on limitations of specimen completeness. Minimum number of individuals (MNI) of all species identified will be calculated.

Special Studies

If intact cultural deposits or features are located during the investigations, special studies will be undertaken to help evaluate the level of integrity.

Flotation, Macrobotanical Analysis, and Radiocarbon Dating

Cultural features identified at the site, estimated to be a maximum of five, will be partially excavated (bisected) and the remainder collected for a representative sample. At least half of the contents of small features will be floated for recovery of macrobotanical remains. Larger features will be sampled with 10–20 liters of fill. Should any macrobotanical remains be recovered in this way, they will be examined and identified by a qualified paleobotanist. Analysis will be sufficient to determine if data is preserved to the extent that it could address important questions during data recovery. Following this analysis, samples of burned wood, nutshell, or other dense organic remains may be submitted for radiocarbon dating. Up to 10 radiocarbon samples will be submitted for analysis for the site if suitable remains are recovered from intact cultural features or deposits.

Reporting

Following completion of the investigations, Atkins will prepare a draft report, including a discussion of the field investigations, to Williamson County for review and comment. Following Williamson County's review of the draft report, Atkins will address comments and resubmit the draft report to Williamson County for final approval. Atkins will then submit a copy of the draft report to the THC for their review and comment. After review, the final report will be revised to address all comments. The final report will meet the report format standards of 13 TAC 26.24, including satisfaction of the Council of Texas Archeologists (CTA) reporting guidelines. The report will include recommendations concerning the NRHP eligibility of site 41WM1398, as well as its eligibility for listing as a SAL. Recommendations concerning the appropriateness for additional work or no further work at the site, based on the requirements of 13 TAC 26.20 and defined in 13 TAC 26.5, will be included. Upon concurrence from THC, Atkins will proceed with final reporting requirements which include completion of an Abstracts in Archeology form online, eleven copies of the final report to approved repositories, and submittal of an unbound final copy, a tagged PDF of the final report (one without site data if applicable), and Project shapefile to the THC.

Curation

Upon completion of the archeological fieldwork, all paperwork and collected artifacts will be transported to Atkins' in-house laboratory. Collected artifacts will be analyzed. Recovered diagnostic artifacts and subsistence remains not retained by the private land owner and all documentation will be curated with CAS. A representative sample of nondiagnostic artifacts will also be curated after THC has accepted the draft report.

References

Collins, M

2004 Chapter 3 Archeology in Central Texas, In *The Prehistory of Texas*, by T.K. Perttula, pp. 101-126. Texas A&M University Press, College Station.

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

2011 *Stone Artifacts of Texas Indians*. Taylor Trade Publishing, Lanham, Maryland.

United States Department of the Interior, United States Geological Survey (USDI-USGS)

2019 "Austin Chalk," on Mineral Resources Online Spatial Data, <https://tin.er.usgs.gov/geology/state/sgmc-unit.php?unit=TXKau;0> (accessed April 9, 2019).

United States Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS)

2019 Web Soil Survey, <http://websoilsurvey.nrcs.usda.gov/app/> (accessed April 9, 2019).