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Megan A. Koszarek

Ben Fullerton

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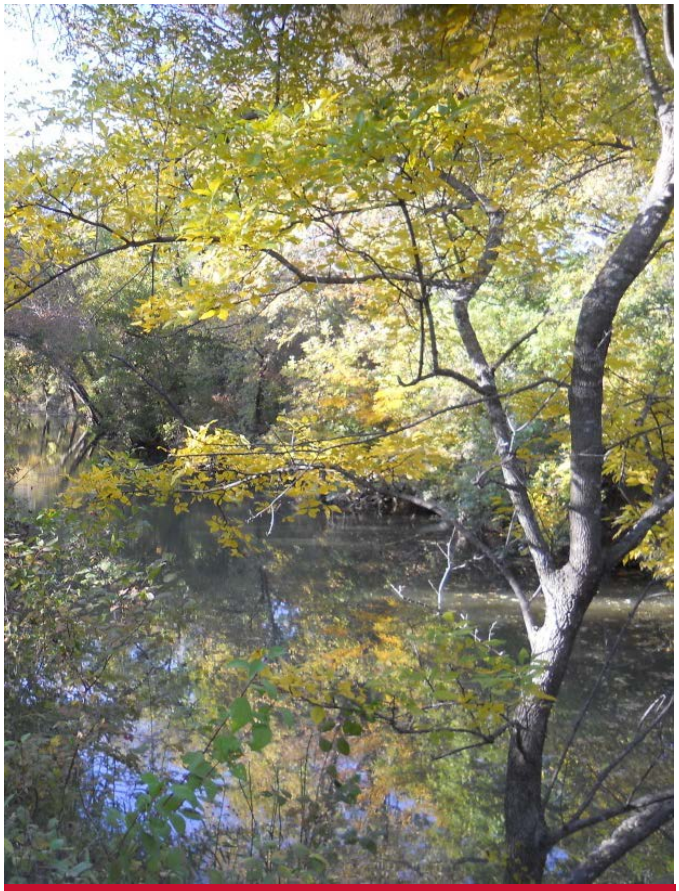

Intensive Archaeological Survey for the Proposed Palo Pinto County Rock Creek Pump Station Pipeline

Palo Pinto and Parker Counties, Texas

February 2015

By: Megan A. Koszarek and Ben Fullerton
Principal Investigator: Ben Fullerton

Permit No: 7046

INTENSIVE ARCHAEOLOGICAL SURVEY FOR THE PROPOSED PALO PINTO COUNTY ROCK CREEK PUMP STATION PIPELINE, PALO PINTO AND PARKER COUNTIES, TEXAS

By
Megan A. Koszarek and
Ben Fullerton

Principal Investigator
Ben Fullerton

Texas Antiquities Permit Number 7046

Prepared For:

Palo Pinto County Municipal Water District No. 1
P.O. Box 387
Mineral Wells, Texas 76068

Prepared By:

17111 Preston Road, Suite 200
Dallas, TX 75248

February 2015

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Management Summary

The Palo Pinto County Municipal Water District No. 1 contracted HDR Engineering, Inc. (HDR) to conduct an intensive cultural resources survey of the approximately four miles of 20-inch pipeline installation in the City of Mineral Wells, Palo Pinto County, Texas. The Area of Potential Effects (APE) is approximately four miles in length within a 10-foot Right-of-Way (ROW). Approximately three miles of the APE, west of the eastern terminus of Harvey Road, falls within the previously disturbed MH 379 road ROW. The remainder of the one mile of APE to the east lies within undisturbed ROW. The eastern portion of the APE lies within Parker County, Texas. The archaeological investigation conducted by HDR consisted of intensive survey of the APE to determine the presence/absence of archaeological resources by employing pedestrian survey, systematic shovel testing, judgmental shovel testing, backhoe trenching, and photo documentation. Fieldwork took place from November 13 to November 14, 2014. HDR project personnel consisted of Principal Investigator Ben Fullerton, Crew Chief Megan Koszarek, and Field Technician Ben Morton. A total of 32 person-hours were invested in the field project.

The survey resulted in a pedestrian walkover and photo documentation of the entire project area as well as the excavation of 28 negative shovel tests and three backhoe trenches. No archaeological materials were identified during the investigation. The project area west of the eastern terminus of Harvey Road is severely disturbed by previous activities related to roadway construction and burial of various types of underground cables and drainage features. In accordance with 36 *Code of Federal Regulations* (CFR) 800 and 13 *Texas Administrative Code* [TAC] 26, no further archaeological investigations are recommended. As a result of the present survey, it is recommended that the proposed installation of approximately four miles of 20-inch pipeline will not have any effect on cultural resources in the project APE, and construction may proceed. In the event that any archaeological deposits are encountered during construction, work should cease, and the Texas Historical Commission (THC) should be notified.

All records and materials generated by this project will be permanently curated at the Center for Archaeological Studies at Texas State University in San Marcos, Texas.

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Abbreviations and Acronyms

APE	Area of Potential Effects
Atlas	Texas Archeological Sites Atlas
bs	Below Surface
CFR	Code of Federal Regulations
cm	Centimeter(s)
cmbs	Centimeters Below Surface
CTA	Council of Texas Archeologists
ft	Foot/Feet
GPS	Global Positioning System
in	Inch/Inches
inbs	Inches Below Surface
km	Kilometer(s)
m	Meter(s)
NRHP	National Register of Historic Places
SAL	State Antiquities Landmark
TAC	Antiquities Code of Texas
TARL	Texas Archeological Research Laboratory
THC	Texas Historical Commission

1 Introduction

The Palo Pinto County Municipal Water District No. 1 contracted HDR Engineering, Inc. (HDR) to conduct an intensive cultural resources survey of the approximately four miles of 20-inch pipeline installation and pump station in the City of Mineral Wells, Palo Pinto County, Texas. The Area of Potential Effects (APE) is approximately four miles in length within a 10-foot Right-of-Way (ROW) (Figure 1-1). Approximately three miles of the APE west of the eastern terminus of Harvey Road falls within the previously disturbed MH 379 road ROW. The remainder of the APE lies within undisturbed ROW. The eastern portion of the APE lies within Parker County, Texas.

The purpose of the cultural resources investigation in the project area is to determine the presence/absence of archaeological resources (36 *Code of Federal Regulations* [CFR] 800.4) and to evaluate identified resources for their eligibility for inclusion in the National Register of Historic Places (NRHP), as per Section 106 (36 CFR 800) of the National Historic Preservation Act of 1966, as amended, or as a designated State Antiquities Landmark (SAL) under the Antiquities Code of Texas (13 TAC 26.12). Fieldwork took place from November 13 to November 14, 2014. HDR project personnel consisted of Principal Investigator Ben Fullerton, Crew Chief Megan Koszarek, and Field Technician Ben Morton. A total of 32 person-hours were invested in the field project.

All records and materials generated by this project will be permanently curated at the Center for Archaeological Studies at Texas State University in San Marcos, Texas.

The remainder of the report is organized in the following manner. Chapter 2 presents the environmental and cultural context for the cultural resources survey. Chapter 3 details the methods employed during the cultural resources survey. Chapter 4 details the results of the survey. Chapter 5 is a summation and presentation of recommendations.

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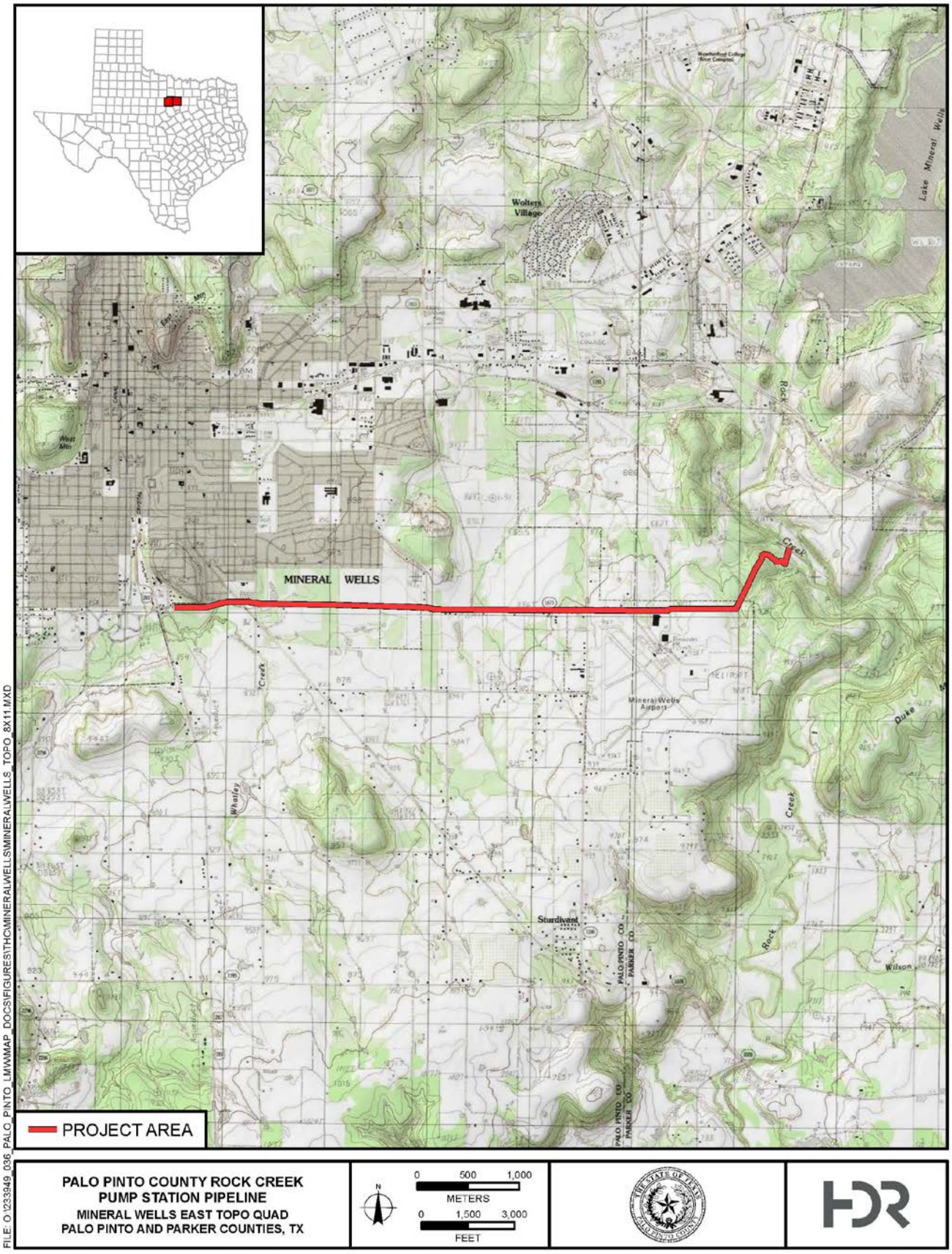

Figure 1-1. Topographic Map of the Project Area

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2 Background

2.1 Geology and Soils

The underlying geology within the project area consists of the Brazos River Formation of Carboniferous Pennsylvanian Age (Bureau of Economic Geology 1992). According to data from the Natural Resources Conservation Service (NRCS), the project area contains ten soil map units. These units are Thurber clay loam, 0 to 1 percent slopes; Thurber clay loam, 1 to 3 percent slopes; Truce fine sandy loam, 1 to 5 percent slopes, eroded; Shatruce-Bonti complex, 8 to 40 percent slopes, rubbly; Santo and Bunyan soils, 0 to 1 percent slopes, frequently flooded; Leeray clay, 1 to 3 percent slopes; Hassee loam, 0 to 1 percent slopes; Truce fine sandy loam, 1 to 3 percent slopes; Bonti fine sandy loam, 1 to 3 percent slopes; and Bonti and Truce soils, 1 to 8 percent slopes (Soil Survey Staff 2014).

Aside from Santo and Bunyan soils, the remainder of the soil map units are mapped on upland ridges or toe slopes and typically exhibit shallow contact with sterile subsoil at approximately 20–30 cmbs (8–12 inbs). On the other hand, Santo and Bunyan soils are mapped in floodplain settings and typically contain flood deposits to depths greater than 200 cmbs (79 inbs) (Soil Survey Staff 2014).

2.2 Cultural History

Table 2-1 presents the general North Central Texas prehistoric chronology, as modified by Peter and McGregor (1988) from formulations by Prikryl (1987) and Skinner and Baird (1985).

Table 2-1. General Cultural Chronology for North Central Texas

(After Peter and McGregor (1988), Prikryl (1987), and Skinner and Baird (1985)

Period	Age (B.C./A.D.)
Paleo-Indian	ca. 9500–6500 B.C.
Archaic	6500 B.C.–A.D. 700
Late Prehistoric	A.D. 700 – 1600
Protohistoric	A.D. 1600 –1800

2.2.1 Paleo-Indian (9500–6500 B.C.)

The Paleo-Indian period in North Central Texas generally includes the remnants of human presence that can be dated to the very late Pleistocene and the immediate post-Pleistocene periods. Unfortunately, the Paleo-Indian occupation of North Central Texas is known primarily through diagnostic projectile points from surface collections or from stratigraphically mixed contexts (Meltzer 1987; Meltzer and Bever 1995). For a recent review of Paleo-Indian evidence throughout Texas, see Bousman et al. 2004; for

earlier reviews with discussions specific to North Central Texas, see Hofman (1989a), Johnson (1989), Prikryl (1990), and Story (1990).

2.2.2 Archaic (6500 B.C.–A.D. 700)

The Archaic period in North Central Texas is tentatively dated between 6500 B.C. and A.D. 700. As is common in Texas archeology and throughout North America, a threefold division of the Archaic period, consisting of Early, Middle, and Late subperiods, has been applied in North Central Texas (Prikryl 1990). Thus, the Early Archaic has been dated from 6500 to 4000 B.C., the Middle Archaic from 4000 to 1500 B.C., and the Late Archaic from 1500 B.C. to A.D. 700 (overviews that cover the Archaic in this portion of Texas include Hofman 1989a; Prikryl 1990; and Story 1985, 1990). General trends that have been proposed as characterizing the Archaic period in North Central Texas suggest increasingly complex settlement systems, increasing population size and density, gradually decreasing mobility, and development of distinct group territories (Prikryl 1990; Story 1985:52).

2.2.3 Late Prehistoric (A.D. 700–1600)

The beginning of what is called the Late Prehistoric period in North Central Texas is marked by the initial appearance of pottery and arrow points. Both Lynott (1977) and Prikryl (1990) have proposed that the Late Prehistoric period be divided into an early and a late phase: the early phase reflecting a continuation of the foraging subsistence system of the preceding Late Archaic period, and the late phase reflecting Southern Plains influences. In this view, the early phase dates between A.D. 700 and 1200 and is characterized by sand- and grog-tempered ceramics and by Scallorn, Steiner, Catahoula, and Alba arrow points (Lynott 1977; Prikryl 1990). The late phase dates from A.D. 1200 to 1600 and is associated with the appearance of Nocona Plain ceramics, various unstemmed triangular points (e.g., Maud, Fresno, Harrell, Washita), and the stemmed Perdiz point (Lynott 1977; Prikryl 1990). Evidence of horticulture and bison procurement also appears in sites of this period (Harris and Harris 1970; Morris and Morris 1970).

2.2.4 Protohistoric (A.D. 1600–1800)

Within North Central Texas, the time from A.D. 1600 to 1800 has been designated the Protohistoric period. Prior to the founding of New Mexico in 1598, the European presence in the Southwest and on the Southern Plains had been sporadic at best: Coronado in 1540–1541, the Rodriguez-Chamuscado party in 1581, and Espejo in 1582–1583, among others. After 1598, however, Spanish influence was never absent from the Southern Plains, although actual contact with Europeans continued to be limited and there are only brief records of journeys into or through the area (Hofman 1989b; John 1975). Despite this, it was not until the beginning of the nineteenth century that the physical presence of Europeans on the Southern Plains became commonplace—the result of increasingly peaceful relations between the Spanish in Texas and the Plains Indians to the north, and the acquisition of Louisiana by the United States in 1803. Prior to about 1725–1750, Apachean groups appear to have dominated the western portion of the Southern Plains, known as the High Plains, but after this time the area was increasingly controlled by the Comanche and Kiowa. On the eastern portion of the Southern Plains, within the area now known as the Lower Plains and Northcentral Texas, the Wichita tribes became dominant (Bell et al. 1967; Hofman 1989b:91).

2.2.5 Historic European and Euro-American Cultural Period (1800–present)

Prior to the establishment of Palo Pinto County in 1856, land that would become the county proper was occupied by a number of Native American tribes until their relocation to the Brazos Lower Indian Reservation by 1854. While Texas was still under Mexican rule, the Mexican government issued 26 colonial grants between 1823 and 1830. Land, including that which would become Palo Pinto County, was granted to Stephen F. Austin and his partner Samuel William. Austin and Williams were part of the empresario system, first initiated when Spain ruled Mexico in the eighteenth century. In 1834, when the Mexican state Coahuila y Tejas tried to increase its state coffers, it offered large quantities of land to investors/land speculators. Sources indicate there was minimal new settlement in the Palo Pinto County area during this time period (Gibson 2001:32; PPCHC 1986, 2006).

After winning its independence from Mexico, the Republic of Texas declared a moratorium on new land grants until a system could be put in place to allow soldiers and veterans access to the same opportunities as immigrants from the U.S. A general land office was created in 1836, and all extant land titles and surveys were collected from landowners and became public property at that time. All unclaimed land reverted to the republic and, with the assistance of the new land office, the government instituted a number of programs to increase the republic's population and its revenue (Texas GLO 2007:10). Settlement in Palo Pinto County was still limited under the Republic of Texas.

As part of its annexation agreement with the United States, Texas retained both its public debt and its public lands. Many of the land grant programs initiated under the republic were extended in order to maintain a stable revenue stream for the new state. Agreements between government—both state and federal,—and railroad companies had a monumental effect on land usage and population distribution within Palo Pinto County and throughout the state. At the same time as the railroad business in Texas was beginning to take shape, so was Palo Pinto County. The state passed the Homestead Law in 1854 that declared all unsettled and unimproved lands once again in the public domain and open for preemption settlement. Over the years, the area has been part of Milam (first known as Viesca under Mexican rule), Robertson, Navarro, McLennan, and Bosque counties, prior to becoming Palo Pinto County in 1856 (Long 2008). The county seat of Golconda was founded in 1857 and was renamed Palo Pinto in 1858.

Since the establishment of Palo Pinto County, acreage had been used as the land grants authorized: large tracts of land for grazing and smaller areas for farming. In the 1870s, some of the largest cattle ranchers in Texas were from Palo Pinto County: the Hittsons, Jowell brothers, George Bevers, and Jere Hart (Gibson 2001:59).

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3 Methods

3.1 Previous Investigations Near the Project Area

A review of THC's Atlas indicates that, within the one-mile buffer zone, there have been three previously recorded archaeological sites. Additionally, one historical marker (#13407) was identified within one mile of the project area. No previous cultural resources surveys have been conducted within one mile of the project area. Furthermore, no cemeteries or Recorded Texas Historic Landmarks or NRHP-listed/eligible historic properties were identified within the one-mile buffer zone.

Review of Archaeological Resources

Within the one-mile buffer zone around the project area, there are three previously recorded archaeological sites (Table 3-1). Site 41PP251 is considered to have an unknown NRHP eligibility status. Sites 41PR10 and 41PR11 are considered not eligible for inclusion in the NRHP. None of these three sites are designated as a State Antiquities Landmark (SAL).

Table 3-1. Previously Recorded Archaeological Sites within One Mile of the Project Area.

Identifier	Affiliation	Features / Function	NRHP Eligibility	Comments / Recommendations
41PP251	Historic	Modern and historic cemetery	Unknown	"Preservation" recommended
41PR10	Historic	Historic coal mine	Not eligible	Probably "Abbott Coal"
41PR11	Historic	Isolated rock-outlined corral	Not eligible	—

Site 41PP251 is recorded as a modern and historic cemetery. The site is considered to have unknown NRHP eligibility status, but it was recommended that preservation efforts be made.

According to the Atlas, site 41PR10 was recorded as a historic coal mine by S. Alan Skinner in 1984. The site probably dates to around 1890–1900 and is related to "Abbott Coal." The mine has been dismantled, and the equipment has been removed. Site 41PR10 is considered not eligible for inclusion in the NRHP.

The final site within one mile of the project area, 41PR11, was recorded as an isolated corral by S. Alan Skinner in 1984. The site consists of a rock-outlined corral, which uses a fence line as one wall. An old road is located northeast of the corral which leads to the historic mine (41PR10). The corral is dated to the late 19th century and could be contemporaneous with the historic mine. The site is considered not eligible for inclusion in the NRHP.

Historic Markers

The Atlas indicates there is one Official Texas Historical Marker (#13407) located within the project area's one-mile buffer zone. This marker was erected in 2005 to commemorate the Weatherford, Mineral Wells, and Northwestern Railway. This railway was built by the Texas & Pacific Railway Company. The line was chartered in 1889 and was in use until the 1940s.

3.2 Survey Methods

HDR conducted an intensive cultural resources survey with shovel testing and backhoe trenching of the approximate four miles of 10-feet ROW proposed for the installation of a 20-inch pipeline and pump station. The approximate three miles west of eastern terminus of Harvey Road fell within previously disturbed road ROW, and the remaining one mile of the project area east of Harvey Road fell within undisturbed ROW. As a result, the survey west of the Harvey Road eastern terminus consisted of photo documentation of disturbance with judgmental shovel testing; for the one mile east of Harvey Road, shovel testing was conducted according to THC minimum survey standards for linear projects with a ROW less than or equal to 100 feet (30 meters) wide (as referenced in 13 TAC 26.20). The one-mile stretch required a single transect of a minimum of 16 shovel tests per mile, resulting in the excavation of 20 shovel tests east of the Harvey Road terminus as well as four shovel tests within the proposed pump station area. An additional four judgmental shovel tests were dug along Harvey Road and MH 379 within the previously disturbed ROW west of Harvey Road eastern terminus.

Each shovel test was approximately 30 centimeters (cm; 12 inches [in]) in diameter and was excavated in 20-cm (8-in) arbitrary levels to a depth of 80 cm (32 in) below surface (bs) or until sterile subsoil was encountered. The soil removed was screened through 0.635-cm (0.25-in) mesh screen, and soil descriptions followed the guidelines and terminology established by the National Soil Survey Center (Schoeneberger et al. 2002). Soil colors were recorded using a Munsell Soil Color Chart. All excavated shovel tests were recorded on shovel test forms which note depth, soil matrix descriptions, and cultural materials recovered. Digital photographs were used to document the survey conditions, disturbances, and any cultural features observed; and details of each photograph were recorded on standardized forms. All shovel test locations were recorded using a Trimble XT Global Positioning System (GPS) unit with sub-meter accuracy.

In addition to shovel testing, backhoe trenching was conducted in the Rock Creek floodplain at the eastern end of the project area where there was potential for deep, intact archaeological materials to be preserved. Three backhoe trenches were excavated within the 80-meter (263-foot) length that fell within the floodplain. Trench dimensions were approximately 12 x 5 feet, and excavation continued until reaching the maximum backhoe arm reach or until contact with sandstone bedrock.

3.2.1 Site Designation

The THC differentiates between archaeological sites and isolated finds. Sites are evaluated and recommended eligible or ineligible for inclusion in the NRHP. Isolated finds are ineligible for inclusion in the NRHP as they do not meet the requirements to be designated as a site. The HDR standards for defining archaeological sites and isolated

finds involves the cultural affiliation and number of artifacts present within an area of pre-determined size. A prehistoric site designation is applied when five or more prehistoric artifacts are present within a 20 m² area. A historic site designation is applied when 10 or more artifacts of two or more artifacts classes are present within a 20 m² area. Isolated finds are defined as the presence of four artifacts or less within a 20 m² area. Site boundaries are defined by the presence of surficial materials and by shovel tests yielding cultural materials. Where possible all radial shovel tests are excavated at 10 m intervals until two sterile units are encountered in all cardinal directions. As part of the identification and documentation of sites, sites are recorded on a State of Texas Archaeological Data Site Form. This form records a variety of data including location, setting, artifactual materials recovered, and other information. All sites are sketch-mapped, recorded using a GPS, and photo-documented. Once completed, the form is submitted to the Texas Archeological Research Laboratory (TARL) for official trinomial designation. All records and materials generated by this project will be permanently curated at the Center for Archaeological Studies at Texas State University in San Marcos, Texas.

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4 Results

The project area consists of approximately four miles proposed for the installation of a 20-inch pipeline within a 10-foot ROW (Figure 4-1). Approximately three miles of the project area falls within the previously disturbed Harvey Road and MH 379 ROW's, while the remaining one mile of the project area falls within undisturbed ROW. The intensive survey of the undisturbed portion of the project area consisted of the excavation of 24 shovel tests along one transect and within the proposed pump station area and also included the excavation of three backhoe trenches within the Rock Creek floodplain. An additional four judgmental shovel tests were excavated within the previously disturbed Harvey Road and MH 379 ROW.

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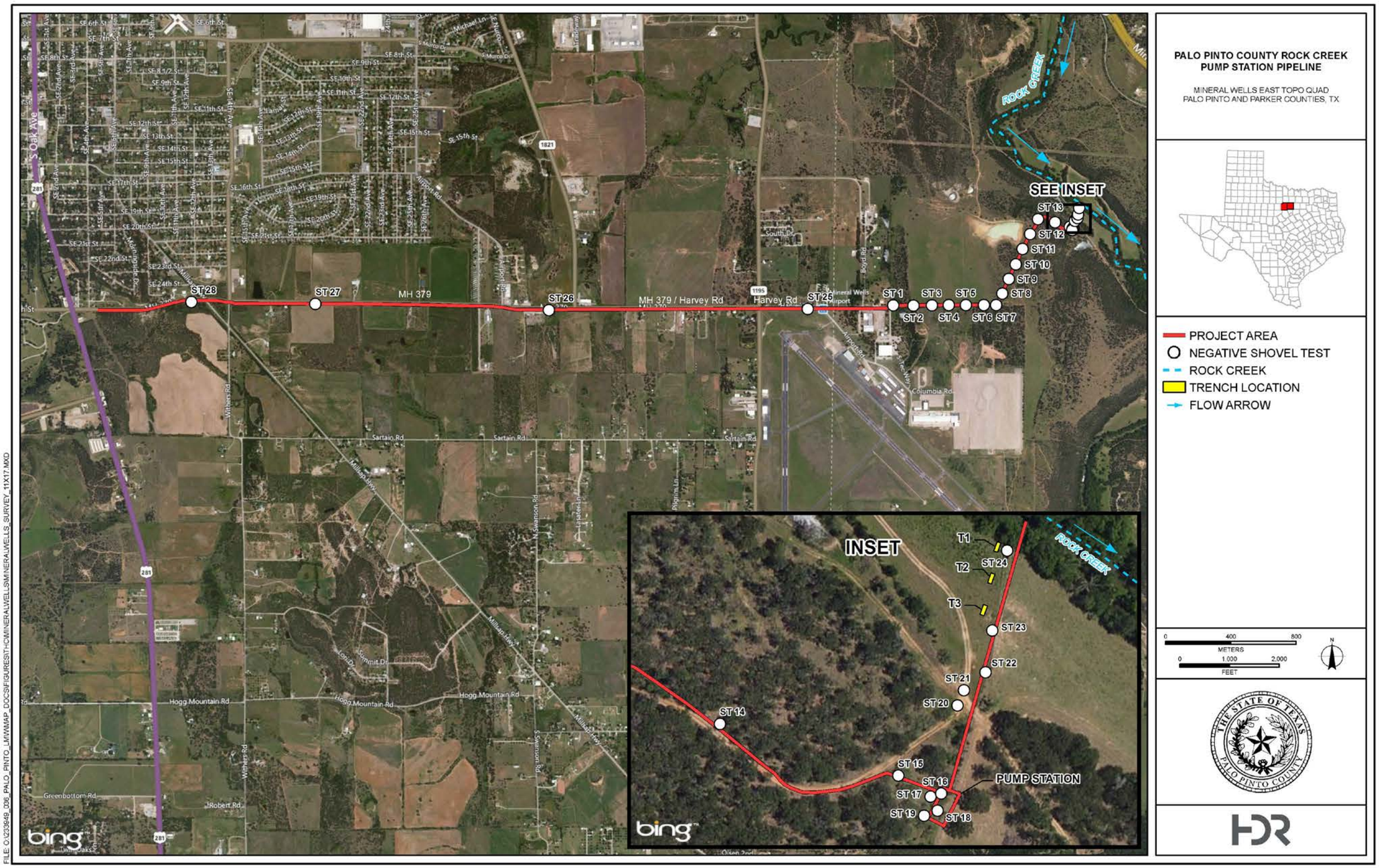

Figure 4-1. Aerial Photographic Map of Project Area Showing Shovel Test and Backhoe Trench Locations

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All shovel tests were excavated until reaching sterile subsoil during the survey. Within the 1-mile undisturbed section of the project area, the typical shovel test above the floodplain consisted of 0 to 40 cm (0 to 16 in) of dark brown (10YR 3/3) silty loam and terminated at sandstone bedrock at 40 cm (16 in) (Figure 4-2). Disturbance was noted within shovel tests excavated within the Harvey Road and MH 379 ROW (Figure 4-3). The typical shovel test profile within the previously disturbed roadway ROW consisted of 0 to 15 cm (1 to 6 in) of dark yellowish brown (10YR 4/4) rocky silty clay loam. The second level consisted of 15 to 25 cm (6 to 10 in) of dark reddish brown (5YR 3/4) rocky clay loam. No cultural materials were identified during the pedestrian walkover and shovel testing of the APE.

Figure 4-2. Shovel Test 2 Soil Profile.

Figure 4-3. Shovel Test 28 Showing Disturbance within MH 379 ROW.

To search for the presence of deeply buried archaeological materials adjacent to Rock Creek, three backhoe trenches were excavated within the 80-meter (263-ft) length of floodplain setting present at the eastern end of the project area (Figure 4-4; see Figure 4-1). Trench 1 was excavated immediately adjacent to the Rock Creek channel, Trench 2 was excavated to the south on a slight downslope, and Trench 3 was excavated further south in a slight depression within the level portion of the floodplain (see Figure 4-1).

Figure 4-4. Overview of Trenching within the Rock Creek Floodplain, Facing Northeast

Trench 1 exhibited a moist, sandy loam A horizon between 0 and 40 cmbs (0 and 16 inbs) underlain by compact, sandy loam flood deposits between 40 and 180 cmbs (16 and 71 inbs) (Table 4-1 and Figure 4-5). Below this depth, a 20-cm (8-in) thick buried A horizon was encountered consisting of very dark gray (10YR 3/1) sandy clay loam with threads, masses, and nodules of calcium carbonate. The complex level of development of the buried A horizon suggests that the buried surface developed during a long period of stability, thus indicating potential for containing intact, preserved archaeological materials. Upon encounter with the buried soil, the backhoe operator was instructed to remove the overlying layer and place the soil from the buried horizon in a separate pile. The soil removed from this level was then carefully inspected, but no archaeological materials were observed. Below this horizon, trenching encountered a weakly developed sandy loam horizon underlain by sand flood deposits until termination depth at approximately 300 cmbs (118 inbs). No cultural materials were observed in Trench 1.

Table 4-1. Trench 1 West Wall Profile Description

Zone	Horizon	Depth (cmbs)	Matrix Description	Contents
1	A	0–40	dark yellowish brown (10YR 3/4) moist sandy loam; granular structure	No cultural materials
2	C	40–180	dark yellowish brown (10YR 4/4) sandy loam; dry, very compact; blocky structure	No cultural materials
3	Abk	180–200	very dark gray (10YR 3/1) sandy clay loam mottled with yellowish brown (10YR 5/8); weathered sandstone fragments; masses, threads, and nodules of calcium carbonate; friable; prismatic structure	No cultural materials
4	2C	200–270	yellowish brown (10YR 5/8) sandy loam; blocky structure	No cultural materials
5	2C2	270–300	yellowish brown (10YR 5/8) sand; massive structure	No cultural materials

Figure 4-5. Trench 1 West Wall Profile, Facing West

Trench 2 exhibited a moist, sandy loam A horizon between 0 and 40 cmbs (0 and 16 inbs) underlain with clay loam flood deposits between 40 and 80 cmbs (16 and 32 inbs) (Table 4-2 and Figure 4-6). Between 80 and 110 cmbs (32 and 43 inbs), a buried A horizon was encountered consisting of mottled, very dark gray (10YR 3/1) clay loam with threads and masses of calcium carbonate. Below this depth, slightly developed to

undeveloped flood deposits continued until contact with sandstone bedrock at approximately 240 cmbs (95 inbs). No cultural materials were observed in Trench 2.

Table 4-2. Trench 2 West Wall Profile Description

Zone	Horizon	Depth (cmbs)	Matrix Description	Contents
1	A	0–40	dark yellowish brown (10YR 3/6) moist sandy loam; granular structure	No cultural materials
2	C	40–80	pale brown (10YR 6/3) clay loam; blocky structure	No cultural materials
3	Abk	80–110	very dark gray (10YR 3/1) clay loam mottled with yellowish brown (10YR 5/8); few threads and masses of calcium carbonate; subangular blocky structure	No cultural materials
4	CBk	110–170	dark yellowish brown (10YR 4/4) clay loam; abundant threads and masses of calcium carbonate; subangular blocky structure	No cultural materials
5	CB2k	170–200	yellowish brown (10YR 5/8) sandy loam with sandstone bedrock inclusions; many calcium carbonate threads; subangular blocky structure	No cultural materials
6	2C	200–240	brownish yellow (10YR 6/8) sand; massive structure	No cultural materials
7	R	240+	weathered sandstone bedrock and sandstone bedrock	No cultural materials

Figure 4-6. Trench 2 West Wall Profile, Facing West

Trench 3 exhibited a moist, clay loam A horizon between 0 and 40 cmbs (0 and 16 inbs) underlain by a series of calcareous horizons of flood deposits between 40 and 200 cmbs (16 and 79 inbs) (Table 4-3 and Figure 4-6). The trench was terminated upon contact with sandstone bedrock. No buried soils or cultural materials were observed in Trench 3.

Table 4-3. Trench 3 West Wall Profile Description

Zone	Horizon	Depth (cmbs)	Matrix Description	Contents
1	A	0–40	grayish brown (10YR 5/2) moist clay loam; subangular blocky structure	No cultural materials
2	C	40–70	dark yellowish brown (10YR 3/4) sandy loam; friable; compact; few masses of calcium carbonate; subangular blocky structure	No cultural materials
3	C2	70–110	dark yellowish brown (10YR 4/6) sandy loam; compact; few masses of calcium carbonate; blocky structure	No cultural materials
4	C3	110–160	yellowish red (5YR 4/6) sandy loam mottled with yellowish brown (10YR 5/6); many threads of calcium carbonate; blocky structure	No cultural materials
5	C4	160–200	yellowish brown (10YR 5/6) coarse sandy loam; few masses of calcium carbonate and few manganese nodules; blocky structure	No cultural materials
6	R	200+	sandstone bedrock	No cultural materials

Figure 4-7. Trench 3 West Wall Profile, Facing West

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5 Summary and Recommendations

5.1 National Register Eligibility

5.1.1 Criteria for Evaluation of Eligibility

As part of the Section 106 review process, cultural resources investigations are undertaken with the purpose of identifying resources that are listed in, or eligible for listing in, the NRHP. The assessment of significance of cultural resources is based on federal guidelines and regulations. Any cultural resource that is listed in or eligible for inclusion in the NRHP is known as a "historic property," and the term "eligible for inclusion in the NRHP" includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet NRHP-listing criteria (36 CFR 800.2). The criteria for evaluating properties for inclusion in the NRHP (36 CFR 60.4 [a–d]) are codified under the authority of the National Historic Preservation Act of 1966, as amended, and the Advisory Council on Historic Preservation has set forth guidelines to use in determining site eligibility. Subsequent to the identification of relevant historical themes and related research questions, these four criteria for eligibility are applied:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, material, workmanship, feeling, and association and

A. that are *associated with events* that have made a significant contribution to the broad patterns of our history; or

B. that are *associated with the lives of persons* significant in our past; or

C. that *embody the distinctive characteristics* of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. that have yielded, or may be likely to *yield, information important in prehistory or history*. Note that the application of Criterion D presupposes that the information imparted by the site is significant in history or prehistory [36 CFR 60.4, emphasis added].

The physical characteristics and historic significance of the overall property are examined when conducting NRHP evaluations. Although a property in its entirety may be considered eligible based on Criteria A, B, C, and/or D, specific data are also required for individual components therein based on date, function, history, physical characteristics, and other information. Resources that do not relate in a significant way to the overall property may contribute if they independently meet the NRHP criteria.

For a historic resource, district, or landscape to be determined eligible for the NRHP, it must retain enough of its historic integrity to convey its significance. For the NRHP, there are seven aspects of integrity:

1. Location
2. Design

3. Setting
4. Materials
5. Workmanship
6. Feeling
7. Association

Occasionally, certain resources fall into categories in which they must be evaluated further using one or more of the following Criterion Considerations. If a resource identified during the reconnaissance-level survey falls into one of these categories, the following Criterion Considerations will be applied in conjunction with one or more of the four National Register criteria:

A. A religious property deriving primary significance from architectural or artistic distinction or historical importance, or

B. A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event, or

C. A birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his or her productive life, or

D. A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or

E. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived, or

F. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance, or

G. A property achieving significance within the past 50 years if it is of exceptional importance (36 CFR 60.4).

The scientific value of archaeological sites is assessed under Criterion D. With regard specifically to this criterion, the goal of prehistoric archaeological research and management is to fill gaps in the knowledge about specific research domains. Scientific importance is driven, in part, by the research paradigms of the time and in part by the amount of information available about a particular research topic in a specific geographic area. The most robust forms of scientific importance should honor diverse and occasionally competing schools of research interests and their attendant approaches. In order to fulfill Criterion D, a site must possess certain attributes (e.g., intact buried cultural strata with functionally and temporally diagnostic materials, datable cultural features), such that further intensive research at the site could be expected to add additional information to relevant research questions.

The research domains are addressed through testing and excavation programs; over time, data required for addressing specific questions are collected, analyzed, and compiled. Eventually, the potential importance, or significance, of sites that contain only the types of data already collected may diminish. This suggests the identification criteria of important historic properties are tied to both a specific geographic area reflecting a

cultural adaptation or cultural region and a state of accumulated knowledge about a research domain topic. The criteria and priorities of important sites are apt to shift as accepted research paradigms change or as data accumulations approach redundancy. Archaeological sites that retain contextual integrity and contain artifacts and features capable of contributing information toward addressing relevant research issues are significant and should therefore be considered eligible for inclusion in the NRHP.

5.1.2 State Antiquities Landmark

At the state level, archaeological sites may be considered significant and be recognized or designated as an SAL, provided that at least one of the following conditions is met:

1. The archaeological site is situated on lands owned or controlled by the State of Texas or one of its political subdivisions; or
2. The archaeological site is situated on private land which has been specifically designated as an SAL and fits at least one of the following criteria:
    A. Preservation of materials must be sufficient to allow application of standard archaeological techniques to advantage;
    B. The majority of artifacts are in place so that a significant portion of the site's original characteristics can be defined through investigation;
    C. The site has the potential to contribute to cumulative cultural history by the addition of new information;
    D. The site offers evidence of unique or rare attributes; and/or
    E. The site offers a unique and rare opportunity to test techniques, theories, or methods of preservation, thereby contributing to scientific knowledge [Texas Natural Resources Code 1977; Title 9, Chapter 191, Texas Antiquities Committee, Section 191.094 and Chapter 41.7, Antiquities Code of Texas].

Buildings, structures, cultural landscapes, and non-archaeological sites, objects, and districts may be designated as an SAL, provided that the following conditions are met:

1. The property fits within at least one of the following criteria:
    A. The property is associated with events that have made a significant contribution to the broad patterns of our history, including importance to a particular cultural or ethnic group;
    B. The property is associated with the lives of persons significant in our past;
    C. The property embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction;
    D. The property has yielded, or may be likely to yield, information important in Texas culture or history;
2. The property retains integrity at the time of the nomination, as determined by the executive director of the commission; and

3. For buildings and structures only, the property must be listed in the NRHP, either individually, or as a contributing property within a historic district. Contributing status may be determined by the Keeper of the National Register of the executive director of the commission.

5.2 Conclusion and Recommendation Summary

During the course of the intensive cultural resources survey for the proposed Rock Creek pump station pipeline, the four mile project area was subjected to pedestrian survey, systematic shovel testing, judgmental shovel testing, backhoe trenching, and photo documentation. Shovel testing primarily encountered shallow contact with subsoil or bedrock along the uplands and disturbed soils within the previously disturbed ROW portions. Backhoe trenching in the Rock Creek floodplain encountered alternating layers of flood deposits with a culturally sterile buried A horizon observed in two of the three trenches.

Overall, a total of 28 shovel tests were excavated within the project area. Of the shovel tests, 24 were located within the undisturbed portion of the APE—east of Harvey Road—and four were located within the previously disturbed MH 379 and Harvey Road ROWs. In addition, three backhoe trenches were excavated within the Rock Creek floodplain. No cultural materials were recovered during the intensive survey.

In accordance with 36 *Code of Federal Regulations* (CFR) 800 and 13 *Texas Administrative Code* [TAC] 26, no further archaeological investigations are recommended for the presently defined project area, and construction of the proposed Rock Creek Pump Station Pipeline may proceed. However, in the event that any archaeological deposits are encountered during construction, work should cease, and the THC should be notified.

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