

# An Intensive Pedestrian Survey for the Proposed Howard Peak Greenway Trail System, San Antonio, Bexar County, Texas

by  
Antonia L. Figueroa



Principal Investigator  
Paul Shawn Marceaux

**REDACTED**

Texas Antiquities Permit No. 7139

*Prepared for:*  
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Archaeological Report, No. 449

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## **Abstract:**

In October 2015, the Center for Archaeological Research (CAR) at The University of Texas at San Antonio (UTSA) conducted an archaeological survey of the proposed 8-km Howard Peak Greenway Trail System located in San Antonio, Bexar County, Texas. The survey was performed for Adams Environmental, Inc. on behalf of the City of San Antonio (COSA). The survey, conducted under the requirements of the Texas Antiquities Code, was performed under Texas Antiquities Permit No. 7139 with Dr. Paul Shawn Marceaux serving as the Principal Investigator and Antonia L. Figueroa serving as the Project Archaeologist. Artifacts and records generated during this project were prepared for curation according to Texas Historical Commission (THC) guidelines and are permanently curated at the CAR-UTSA.

Archaeological work included a 100 percent pedestrian survey of the proposed trail along with shovel testing. The principal goal of the survey was to identify and document all prehistoric and/or historic archaeological sites that may be impacted by the proposed park trail. The survey resulted in the excavation of 99 shovel tests, the revisit of site 41BX879, and the recording of three new sites (41BX2109, 41BX2110, and 41BX2111). All four sites contained buried prehistoric material such as lithic debitage and burned rock. Site 41BX2110 also contained edge-modified tools, and a bifacial tool and perforator were recovered from site 41BX2111. However, no features or temporally diagnostic artifacts were identified at any of the sites, and the majority of the cultural material was in shallow deposits. The lack of sediments, dearth of deposits, and low density of artifacts at all four sites suggest they do not possess potential for future research. Therefore, the CAR recommends no further archaeological work and that the proposed trail proceed as planned. The CAR also recommends the sites be listed as ineligible for the National Register of Historic Places (NRHP).

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## **Chapter 1: Introduction**

In October 2015, the Center for Archaeological Research (CAR) of The University of Texas at San Antonio (UTSA) conducted an archaeological pedestrian survey of the proposed Howard Peak Greenway Trails System extensions in northwest San Antonio, Bexar County, Texas (Figure 1-1). The CAR was contracted by Adams Environmental, Inc. (AEI) to provide services to the City of San Antonio (COSA). The principal goal of the survey was to identify and document all prehistoric and/or historic archaeological sites that may be impacted by the proposed park trails.

This archaeological investigation was performed under Texas Antiquities Permit No. 7139, with Antonia L. Figueroa serving as the Project Archaeologist and Dr. Paul Shawn Marceaux serving as the Principal Investigator. The field work was conducted by CAR staff members David Barron, Jason B. Perez, and Sarah Wigley.

### **The Project Area and APE**

The Area of Potential Effect (APE) consists of 8 km of proposed trails along Leon Creek and Salado Creek (Figure 1-2). The first trail is 4.9-km long and will run along Leon Creek from IH-10 near Loop 1604 to Eisenhower Park. The second trail is located between Huebner Road and Loop 1604 and measures approximately 3 km. For discussion, the trails were divided into five segments. The easements of the proposed trails are each 9.14-m wide. The completed project will produce a concrete walking/bike trail that is consistent with the current grade.

Both trail segments are adjacent to Leon Creek and Salado Creek with multiple crossings planned. Consequently, the project will require Section 404 permits as the creek crossings will result in the deposition of fill materials in the creeks. Formal coordination with the United States Army Corps of Engineers is not required, though the project must comply with the general conditions of a Nationwide Permit 14 (Linear Transportation Crossings). The CAR coordinated with the State Historic Preservation Office (SHPO) to address the potential that the project be subject to a review under Section 106 of the National Historic Preservation Act.

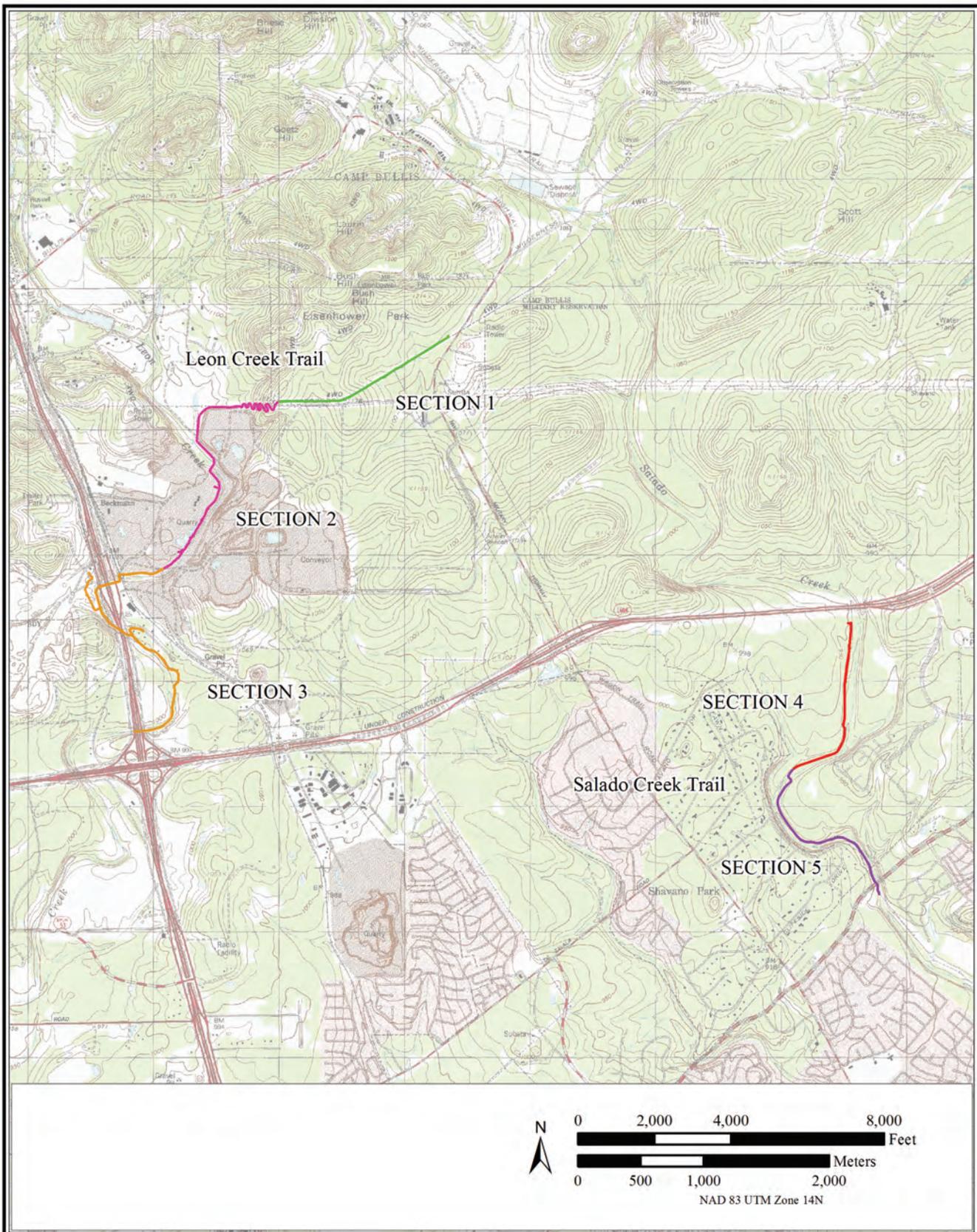


Figure 1-1. The location of the project area on the Castle Hills USGS 7.5-minute series quadrangle map.

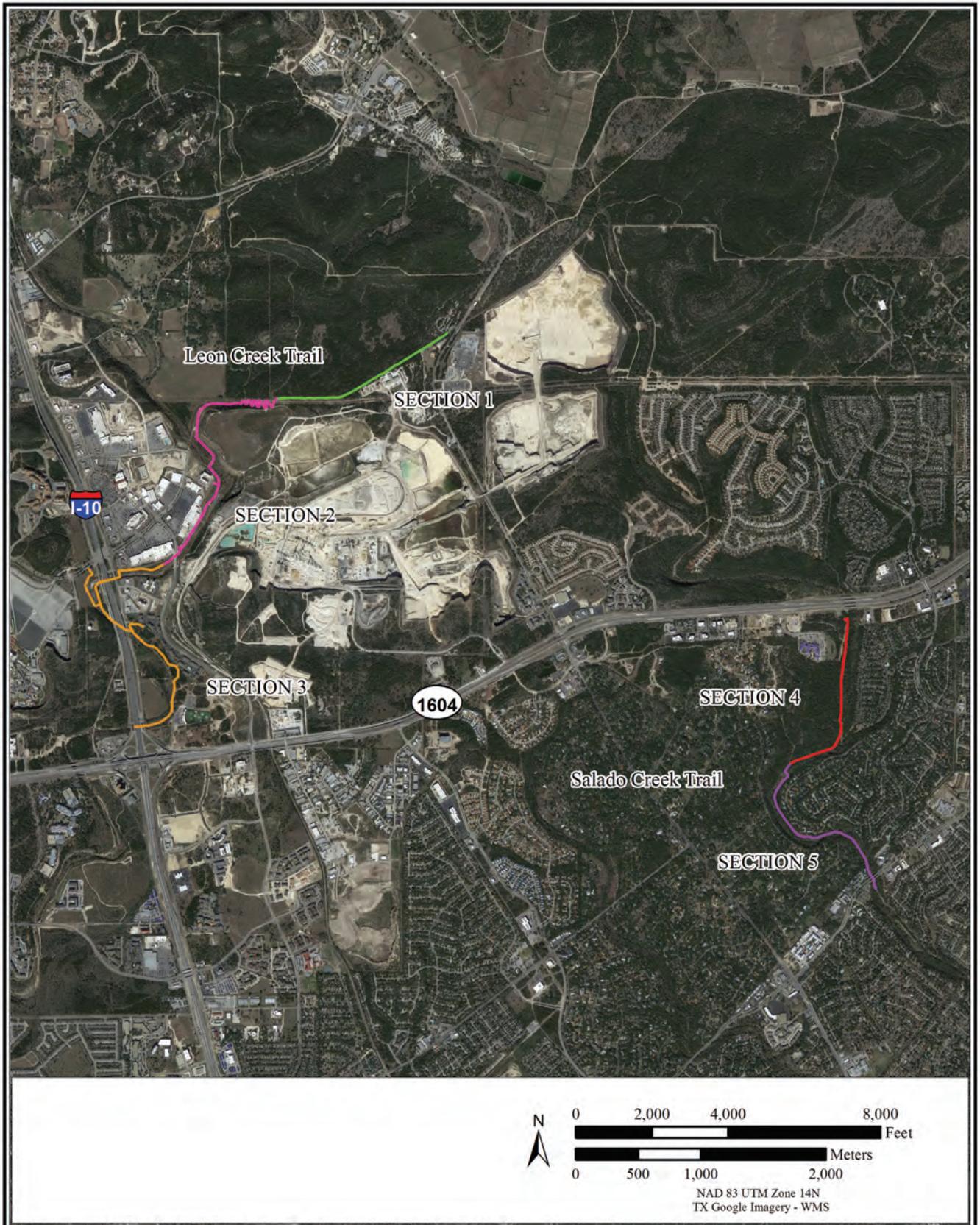


Figure 1-2. Aerial photograph depicting the project area.

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## Chapter 2: Project Background and Previous Archaeology

This chapter will present the project background and previous archaeology for the project area. The project background includes the vegetation, soil, and hydrology of the project area. The environs of the project area and the culture chronology are included in the project background section, followed by a review of the previous archaeology in and surrounding the project area. One previously recorded site (41BX879) was revisited during this project.

### Project Background

#### Vegetation

Ecological assessment of the project area was obtained from the Web Soil Survey (National Resource Conservation Service [NRCS] 2015). The northern segment consists of several vegetation regimes that make up the Low Stony Hill ecological type and that vary in vegetation and canopy height. Vegetation regimes found in the Low Stony Hill include oak motte/shrubland community, grassland savannah community, savannah shrubland, oak/juniper grassland, and oak/juniper/mesquite woodland. Oak motte is made up of mostly grasses (78%) followed by trees (13%). Forbs (4%) and shrubs/vines (5%) make up little of the vegetation in this plant community. The grassland savannah community includes a high percentage of grasses (65%), followed by forbs (15%), trees (15%), and shrubs/vines (5%). Little bluegrass (*Schizachyrium scoparium*) dominates the area as well as Indian grass (*Sorghastrum nutans*) and big bluestems (*Andropogon gerardii*). The savannah shrubland community is very similar to open grassland, with dominating grasses (60%), followed by forbs (15%), trees (15%), and shrubs/vines (10%). The savannah communities are described as midgrasses with 10-20% canopy.

The oak/juniper grassland community has mostly grasses (45%) and trees (30%), followed by shrubs/vines (15%), and forbs (10%). The oak/juniper/mesquite woodland is made up from a majority of trees (40%), which are typically ashe juniper (*Juniperus ashei*), live oak (*Quercus virginiana*), honey mesquite (*Prosopis glandulosa*), Texas persimmon (*Diospyros texana*), and elbow bush (*Forestiera pubescens*). The oak juniper communities consist of oak (20-25%) and juniper (10-20%) canopy. Another vegetation community in this part of the project area is an open grassland that is 85% grasses, old world bluestems (*Bothriochloa ischaemum*), and silky bluestem (*Dichanthium sericeum*). The remaining 15% of vegetation in this community consists forbs (5%), shrubs/vines (5%), and trees (5%).

#### Soils

The proposed trail segment near Leon Creek crosses a variety of soil types, including Tinn and Frio soils, Eckrant cobbly clay soil, and Crawford and Bexar stony soils. Tinn and Frio soils occur within flood plains and are well drained with 0-1% slopes (NRCS 2015). Eckrant soils have a 0-5% slope, occur on ridges, and are well drained (NRCS 2015). Crawford and Bexar stony soils are located on 0-3% slopes mostly along plains. The proposed trail along Salado Creek is located on Tinn Clay. The soil series consists of 0-1% slopes and is found on flood plains (NRCS 2015).

#### Hydrology of Leon Creek and Salado Creek

The project area is located along Leon Creek and Salado Creek. Leon Creek flows at a rate of less than one-third of a liter per second and originates from the Glen Rose and Edwards formation, 10 km upstream from the site. Current flow rates have been impacted by modern groundwater pumping (Brune 1981). Elevations in the project area range from approximately 940 to 950 ft. AMSL.

Potter et al. (1995) conducted a study of the Salado Creek system as part of the Wurzbach Parkway project. The creek system is divided into three segments defined by physiological zones, the Balcones Escarpment, the Blackland Prairie, and the interior Coastal Plain (Potter et. al 1995). The Salado Creek system is a primary drainage system within Bexar County and is described by Potter et al. (1995) as Upper, Middle, and Lower zones. The portion of the project area is along the Upper Salado segment. The Upper Salado system, according to Potter et al. (1995:8) is “bedload dominated,” which is defined by the transport of coarse sediments such as pebbles, gravel, and boulders. Furthermore, the load is a turbulent traction in and near the creek channel. Deposits that result from this are typically poorly sorted, coarse sediments in a matrix of clay and silt (Potter et al. 1995:9). As noted in Potter et al. (1995), the Upper Salado is steep, the creek course is straight, and the floodplains are narrow.

## **Culture History**

The project area lies at the intersection of two broad archaeological regions, Central Texas and South Texas. There are few known archaeological sites with long sequences of stratified deposits in South Texas; therefore, the prehistoric sequence developed for Central Texas is often used as a framework for describing the prehistory of South Texas. The following culture history emphasizes both Central and South Texas. This discussion on culture history is based primarily on the chronologies developed by Collins (2004), Johnson and Goode (1994), and Black (1989) for Central Texas, with observations from Hester (2004) for South Texas. Four major time periods define Central and South Texas: Paleoindian, Archaic, Late Prehistoric, and Historic. Historic occupation was not recorded in the project area and is not presented in this section.

### **Paleoindian**

The Paleoindian period (11,500-8800 BP) is divided into early and late sub-periods. Each sub-period is characterized by particular projectile point styles and subsistence patterns (Collins 2004). The period begins at the close of the Pleistocene with the earliest evidence of humans in the Central Texas region. The climate during this period was generally cooler and wetter than the present. Clovis and Folsom point types, bifacial Clear Fork tools, and finely flaked end scrapers characterize the early Paleoindian period (Black 1989). Clovis is the earliest defined cultural assemblage and is, for the most part, consistent across the North American continent. Material assemblages dating earlier than Clovis are referred to as pre-Clovis.

### **Archaic**

The Archaic period (8800-1200 BP) is identified as a period of intensification in hunting and gathering and a move toward greater exploitation of local resources. As a result, a broadening of the material culture is evident, including changes in projectile points and the “extensive use of heated rock” in cooking (Collins 1995:383). Food processing technologies appeared to have broadened as features, such as hearths, ovens, and middens, increased in frequency during this time (Black and McGraw 1985). Large cemeteries also appeared during this period signaling the likely establishment of regional “territories” (Black and McGraw 1985:38). Collins (2004) and Johnson and Goode (1994) divided the Archaic into Early, Middle, and Late sub-periods. These sub-periods are distinguished by variances in climate conditions, resource availability, subsistence practices, and diagnostic projectile point styles (Collins 2004; Hester 2004).

In Central Texas, the Early Archaic dates from 8800-6000 BP (Collins 2004). Changing climate and the extinction of mega fauna appear to have initiated a behavioral change by hunter-gatherers. Because of the necessary economic shift away from big game hunting, local resources in Central Texas, such as deer, fish, and plant bulbs, were more intensively exploited.

The Middle Archaic, 6000-4000 BP (Collins 2004), appears to have been a period of increasing population, based on the large number of sites documented from this time in Central Texas and adjacent regions (Story 1985; Weir 1976). Projectile point variation at the Jonas Terrace site suggests a period of “ethnic and cultural variety, as well as group movement and immigration” (Johnson 1995:285).

The final interval, the Late Archaic, in Central Texas dates from 4000-1200 BP (Collins 2004). There is no consensus among researchers regarding population size in this sub-period. During this period, large cemeteries were formed indicating an increasing population and the subsequent establishment of territories (Black and McGraw 1985).

### **Late Prehistoric**

The Late Prehistoric period (1200-350 BP) in Central Texas marks a distinctive shift from the use of the atlatl and dart to the use of the bow and arrow (Black 1989; Collins 2004; Hester 2004; Story 1985). The Late Prehistoric is subdivided into early and late phases termed Austin and Toyah Phases, respectively (Prewitt 1981). Temporal diagnostics, including Scallorn and Edwards arrow points, define the Austin Phase (1200-650 BP; Prewitt 1981). It appears that the use of burned rock middens may have reached its peak during this phase (Black and Creel 1997). The subsequent Toyah Phase spans 650-350 BP and includes the first occurrence of pottery in South Texas (Black 1989). Characteristic artifacts of this phase include Perdiz and Clifton arrow points (Black 1986). Material culture associated with the Late Prehistoric period indicates increasing complexity in subsistence patterns and very large prehistoric populations (Black 1989; Collins 2004).

## **Previous Archaeological Investigations**

A background literature review and a search on the Texas Archeological Sites Atlas revealed nine previously recorded archaeological sites within 100 m or less of the proposed trails. Four sites (41BX395, 41BX702, 41BX703, and 41BX889) are along the proposed Leon Creek trail (Figure 2-1).

The CAR recorded site 41BX395 during the Fort Sam Houston project (Gerstle et al. 1978). This site is located 41 m northwest of the proposed Leon Creek trail. The site is located on an upland margin with very thin soils and exposed bedrock. It is described as a 40-x-20 m lithic scatter containing chert nodules, cores, preforms, and flakes. Gerstle et al. (1978) recommended surface survey and mapping. The CAR revisited the site in December 1985 during an archaeological survey of Eisenhower Park (McGraw 1986). Site size, defined by surface scatter, was increased to 250-x-200 m. Five shovel tests were excavated and surface artifacts were collected. Shovel tests reached a maximum depth of 21 cm below the surface (cmbs) due to shallow soils. Recorded cultural material included lithic debitage and an Early Archaic period Early Corner Notched series dart point (McGraw 1986). Due to a low density of artifacts and site deflation, site 41BX395 was recommended as ineligible for the National Register of Historic Places (NRHP) or as a State Archaeological Landmark (SAL). Further work was not recommended (McGraw 1986).

Sites 41BX702 and 41BX703 were also recorded during the 1985 Eisenhower Park survey (McGraw 1986) and are 50-100 m from the proposed Leon Creek trail alignment. Site 41BX702 was described as a 120-x-75 m lithic scatter located on an upland ridge. The site was defined by a surface scatter of lithic debitage and two negative shovel tests. Cultural material consisted of lithic debitage and two broken projectile points (McGraw 1986:20). Due to the lack of subsurface material and erosion, the site was recommended as not eligible for the NRHP or SAL designation. Further work was not recommended. Site 41BX703 was described as a 75-x-50 m surface scatter of lithic debris located along an extensive ridge complex near the south-central portions of Eisenhower Park (McGraw 1986). One shovel test, reaching only 15 cmbs due to the shallow soils, was excavated. No subsurface cultural material was recovered. Due to the low density of artifacts and erosion, the site was determined to be ineligible for the NRHP and for SAL designation. Further work was not recommended.

Site 41BX889, located on the west bank of Leon Creek (within the APE along the Leon Creek proposed trail) was recorded in 1990 during archaeological investigations for a proposed fiber optic line (THC Atlas 2015). The boundaries of the site are within 40 m of the proposed trail. Archaeologists defined the site as a lithic scatter with modern historic material present. The site is approximately 3.2 km north of the IH-10 and Loop 1604 intersection and has been heavily disturbed by highway construction. Shovel tests were excavated at the site, but only historic cultural material was encountered, much of which was modern glass and metal. Further work was not recommended (THC Atlas 2015). During the current investigations, the site was revisited (see Chapter 4).

Five previously recorded archaeological sites (41BX9, 41BX10, 41BX874, 41BX878, and 41BX879) are located near the proposed trail along Salado Creek (Figure 2-2). Of the five, three (41BX874, 41BX878, and 41BX879) were recorded by Geo-Marine in 1990 (Cliff et al. 1990). Site 41BX874 lies on the proposed trail. The site, 60-x-10 m, was recorded as a sparse scatter of lithic debitage on a low slope of an upland hill on the west side of Salado Creek. Eight excavated shovel tests produced one piece of debitage from 5 cmbs (Cliff et al. 1990). No diagnostic cultural material was observed or recovered. Cattle paths and erosion impacted the site. The site was determined to be ineligible for NRHP or SAL listing, and further work was not recommended. Site 41BX878 is located on the east bank of Salado Creek. The site, a lithic scatter, measures 110-x-55 m and is situated on a lower slope of an upland hill. Eight shovel tests were excavated. No diagnostic cultural material was observed or recovered from the site. The site was recommended as ineligible for NRHP or SAL listing. Due to shallow soils and the low potential for intact features, further work was not recommended. Site 41BX879 is located on the current proposed trail segment. The site covers 630-x-90 m and was defined by a surface scatter of lithic debris on a lower slope of an upland hill west of Salado Creek. Eight shovel tests were excavated (Cliff et al. 1990). Cultural material observed at the site included lithic debitage, tools, and some historic material. Impacts to the site included a two-track road and cattle paths. Due to shallow soils on the site (less than 15 cm), further work was not recommended, nor was the site considered eligible for NRHP or SAL listing (Cliff et al. 1990).

Paul McGuff and Bill Fawcett recorded site 41BX9, located approximately 25 m to the east of the proposed Salado Creek trail, in 1970 (THC Atlas 2015). The site was described as a small rock shelter, 1.5 m above the creek bed. No surface collection or excavations were conducted at the site. A circular stone pendant was previously recovered by an informant (THC Atlas 2015). Because the anticipated time and monetary investment would outweigh potential results, further work was not recommended at the time of its initial recording (THC Atlas 2015). The CAR staff attempted to revisit the site during the current investigations but were unable to locate the site. It appears that coordinates listed on the THC Atlas are inaccurate. Site 41BX10 is a small cave reportedly 35 m west of the proposed trail near Salado Creek. The site, per an informant, contained a small figurine. Dee Ann Story recorded the site in 1970 and recommended inspection of the cave (THC 2015). During the current investigations a revisit was attempted, but the site coordinates appeared to be inaccurate.

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*Figure 2-1. Previously recorded sites along the Leon Creek proposed trail.*

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*Figure 2-2. Previously recorded sites along the Salado Creek proposed trail.*

## **Chapter 3: Field and Laboratory Methods**

### **Field Methods**

Shovel testing was conducted following an initial pedestrian reconnaissance of the project corridor. For the proposed trail near Leon Creek (Segments 1 through 3), based on the 4.9-km survey area, excavation required to fulfill the THC minimum survey standards would be a minimum of 53 shovel tests at a density of 16 shovel tests per 1.6 km. The CAR excavated 56 shovel tests on the Leon Creek portion of the proposed trail. On the Salado Creek trail segments, measuring 3 km, 43 shovel tests were excavated. Shovel test locations were evenly distributed within the APE and for defining site boundaries. During site revisits, a minimum of six shovel tests were excavated to define each site's boundaries. One previously recorded site (41BX879) was revisited, and three new sites (41BX2109, 41BX2110, and 41BX2111) were documented. If a positive shovel test was encountered, additional shovel tests were excavated at close intervals to define the extent of the distribution.

Shovel tests were 30 cm in diameter and, when possible, extended to a depth of 60 cmbs. They were excavated in 10-cm increments, and all soil from each level was screened through ¼-inch hardware cloth. A soil sample was collected from each level. All encountered artifacts were recovered with appropriate provenience for laboratory processing, analysis, and curation. A shovel test form was completed for every excavated shovel test. Data collected from each shovel test included the final excavation depth, a tally of all materials recovered from each 10-cm level, and a brief soil description (texture, consistency, Munsell color, inclusions). The location of every shovel test was recorded with Trimble Geo XT GPS units and sketched onto aerial maps as a backup to GPS provenience information. Any additional observations considered pertinent were included as comments on the standard shovel test excavation form.

### **Site Recording and Identification**

For the purposes of this survey, archaeological sites contain cultural materials or features that are at least 50 years old within a given area. The definition of a site used for this project was as follows: (1) five or more surface artifacts within a 15-m radius (ca. 706.9 m<sup>2</sup>), or (2) a single cultural feature, such as a hearth, observed on surface or exposed in shovel testing, or (3) a positive shovel test containing at least three artifacts within a given 10-cm level, or (4) a positive shovel test containing at least five total artifacts, or (5) two positive shovel tests located within 30 m of each other.

If evidence of cultural materials meeting the minimum criteria for an archaeological site was encountered in a shovel test, additional shovel tests were excavated at close intervals to define the extent of the distribution. A minimum of six shovel tests were excavated to define the site boundaries within the limits of the project boundaries. The Project Archaeologist produced a sketch map of these elements to serve as a backup for the GPS site data. All temporally diagnostic artifacts were plotted with the GPS units. Digital photographs were taken of each site, and Texas site forms were submitted to the THC.

### **Archaeological Laboratory Methods**

All cultural materials and records obtained and/or generated during the project were prepared in accordance with federal regulation 36 CFR part 79 and THC requirements for State Held-in-Trust collections. Artifacts processed in the CAR laboratory were washed, air-dried, and stored in 4-mm zip-locking, archival-quality bags. Organic materials and materials needing extra support were double-bagged. Acid-free labels were placed in all artifact bags. Each laser-printed label contains provenience information and a corresponding lot number. Tools and ceramics were labeled with permanent ink over a clear coat of acrylic and covered by another acrylic coat. In addition, a small sample of unmodified debitage from each lot was labeled with the appropriate provenience data. Artifacts were separated by class and stored in acid-free boxes. Digital photographs were printed on acid-free paper, labeled with archivally appropriate materials, and placed in archival-quality sleeves. All field forms were completed with pencil. Upon completion of the project, all collected materials will be housed at the CAR.

Artifact classes to be discarded specific to this project may include, but are not limited to, burned rock, snail shell, unidentifiable metal, soil samples, and recent (post-1950) materials. In the case of prehistoric materials (e.g., burned rock), items recovered from in situ feature contexts will be sub-sampled prior to disposal. In all instances, however, discarded materials will be documented, and their counts will be included in the final report and curation documentation.

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## **Chapter 4: Results of Field Investigations**

Field work conducted by the CAR on the proposed Howard Peak trail alignment occurred from October 12-19, 2015. For the purposes of discussion, the APE has been divided into five segments. Segments 1, 2, and 3 are along the Leon Creek portion of the proposed trail, while the remaining Segments 4 and 5 are along the Salado Creek portion of the project area (see Figure 1-2). Three new sites (41BX2109, 41BX2110, and 41BX2111) were recorded, and one previously recorded site (41BX879) was revisited during the archaeological investigations.

### **Leon Creek: Segment 1**

The Leon Creek portion of the project area is presented here in three sections. An informal trail is present along Segment 1 portion of the APE within Eisenhower Park (Figure 4-1). Twenty-three shovel tests (STs) were excavated along Segment 1 of the APE (Figure 4-2). Table 4-1 lists the shovel tests excavated on this segment. Ground disturbances were detected in STs 2 and 3 in the form of a utility line at 30 cmbs (Figure 4-3). Soils were shallow in Segment 1 of the project area with exposed bedrock visible in many areas along the existing informal trail, as seen in Figure 4-4.



*Figure 4-1. Segment 1 of proposed trail in Eisenhower Park.*

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*Figure 4-2. Map of Segment 1 and shovel tests (see Figure 4-5 for designations of STs 13, 39-46).*

Table 4-1. Shovel Tests Excavated in Segment 1

<b>ST</b>	<b>Site</b>	<b>Depth (cmbs)</b>	<b>Cultural Material</b>
1		20	negative
2		30	negative
3		35	negative
4		30	negative
5		28	negative
6		17	negative
7		30	negative
8		20	negative
9		52	negative
10		20	negative
11		13	negative
12		30	negative
13	41BX2109	60	positive
14		30	negative
15		20	negative
39	41BX2109	15	positive
40	41BX2109	60	negative
41	41BX2109	17	negative
42	41BX2109	30	negative
43	41BX2109	20	positive
44	41BX2109	40	negative
45	41BX2109	15	negative
46	41BX2109	10	negative



Figure 4-3. Utilities encountered in ST 2.



Figure 4-4. Exposed bedrock along Segment 1.

### 41BX2109

During the shovel testing of Segment 1, site 41BX2109 was documented as a lithic scatter along the proposed trail alignment within Eisenhower Park. Nine shovel tests were excavated to delineate site boundaries (Figure 4-5). Three shovel tests were positive for cultural material (Table 4-2) that consisted of debitage (n=2) and burned rock (106.2 g). Material was found between Level 2 (10-20 cmbs) and Level 4 (30-40 cmbs). An informal trail intercepts the southern portion of the site. The photograph displayed in Figure 4-6 shows the trail alignment and environs of the site. Due to the lack of soils and sparse material culture, further work was not recommended on the site.

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*Figure 4-5. Map of site 41BX2109.*

Table 4-2. Artifacts Recovered from 41BX2109

ST/Level	Burned Rock	Debitage	Total
<b>13</b>			
2	1 (21.35 g)		<b>1</b>
3	2 (6.52 g)		<b>2</b>
4		1	<b>1</b>
<b>39</b>			
2	1 (0.44 g)		<b>1</b>
<b>43</b>			
3	1 (70.4 g)		<b>1</b>
4	3 (7.5 g)	1	<b>4</b>
<b>Grand Total</b>	<b>8 (106.2 g)</b>	<b>2</b>	<b>10</b>



Figure 4-6. Environs of site 41BX2109.

## Leon Creek: Segment 2

Segment 2 begins just outside the perimeters of Eisenhower Park (Figure 4-7). The northern portion of the proposed trail is located along a steep incline where a proposed switchback will be installed (Figure 4-8). Moreover, the proposed trail runs along a power line corridor, as seen in Figure 4-8. Seventeen shovel tests were excavated along this segment (Table 4-3). No cultural material was noted along this portion of the proposed trail. Shovel tests 18 and 19 consisted of sand fill that was also evident on the surface of this segment of the trail (Figure 4-9).

Shovel tests 22-27 along Segment 2 occurred behind an apartment complex close to Leon Creek (Figure 4-10). Figure 4-10 shows Leon Creek along Segment 2. The remaining shovel tests (28-32) were excavated behind a nearby shopping center (Figure 4-11).



Figure 4-7. Map of Segment 2 and shovel tests.



Figure 4-8. Proposed switchback located along Segment 2 of proposed trail.

Table 4-3. Segment 2 Shovel Tests

ST	Site	Depth (cmbs)	Cultural Material
16		3	negative
17		3	negative
18		60	negative
19		60	negative
20		9	negative
21		20	negative
22		60	negative
23		15	negative
24		28	negative
25		29	negative
26		25	negative
27		30	negative
28		20	negative
29		20	negative
30		48	negative
31		31	negative
32		47	negative



*Figure 4-9. Sand fill encountered in STs 18 and 19 along Segment 2.*



*Figure 4-10. Leon Creek along Segment 2.*



Figure 4-11. Shovel test 29, located behind a nearby shopping center.

### Leon Creek: Segment 3

Segment 3 of the proposed Howard Peak trail also runs along Leon Creek (Figure 4-12). Sixteen shovel tests were excavated on this segment (Table 4-4). No cultural material was encountered along this portion of the proposed trail. Shovel tests 33-36 were excavated to the south of a nearby shopping center (Figure 4-13). Portions of the trail also run along the underpass bridge of IH-10, where no shovel tests were excavated (Figure 4-14).

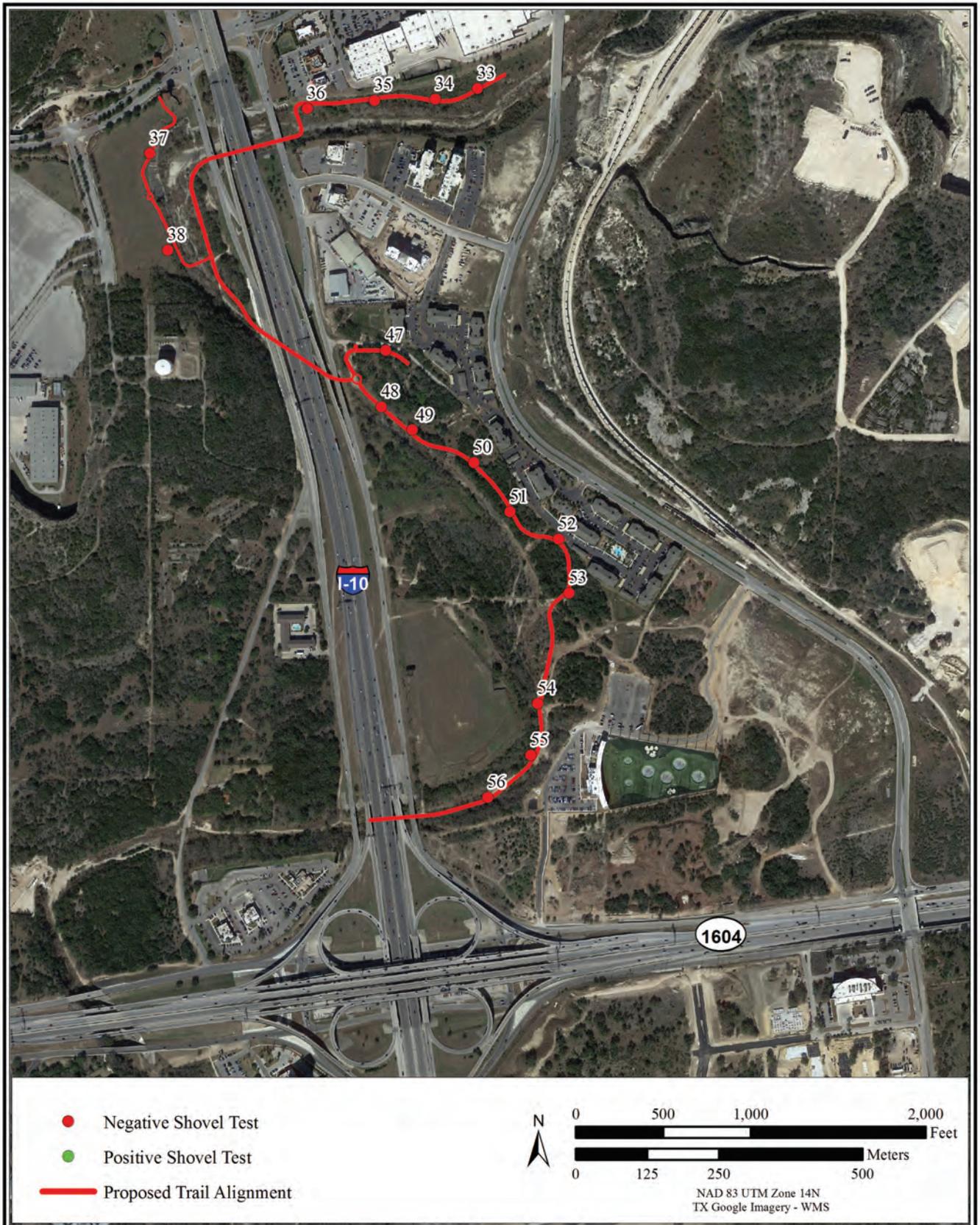


Figure 4-12. Map of Segment 3 and shovel tests.

Table 4-4. Shovel Tests Excavated in Segment 3

ST	Site	Depth (cmbs)	Cultural Material
33		31	negative
34		26	negative
35		18	negative
36		10	negative
37		17	negative
38		40	negative
47		19	negative
48		40	negative
49		20	negative
50		60	negative
51		37	negative
52		18	negative
53		10	negative
54		28	negative
55		60	negative
56		10	negative



Figure 4-13. Shovel tests excavated to the south of a nearby shopping center.



*Figure 4-14. Proposed trail that runs along IH-10 bridge and Leon Creek.*

## **Salado Creek: Segment 4**

Segment 4 of the proposed Howard Peak trail begins just south of Loop 1604, along the west bank of Salado Creek (Figure 4-15). As seen Figure 4-15, residential development has encroached along the margins of the project area. Archaeologists revisited site 41BX879 and recorded site 41BX2111 during the investigation of Segment 4. Twenty-five shovel tests were excavated along Segment 4 (Table 4-5).

### **41BX879**

Archaeological investigations of Segment 4 included revisiting the portion of 41BX879 that intersected the APE. Nine shovel tests were excavated to delineate site boundaries (Figure 4-16). Five shovel tests were positive for cultural material (Table 4-6). Debitage (n=4) and burned rock (108.2 g) were found between Level 1 (0-10 cmbs) and Level 3 (20-30 cmbs). Several ephemeral drainages dissect the site, as seen in Figure 4-17. Within one of the drainages near ST 91, a piece of chert debitage was noted but not collected (Figure 4-18). There have been some impacts to the site by construction activities (Figure 4-19). The boundaries of the site did not change, and a revisit form was submitted to the Texas Archeological Research Lab for a site update. No further work was recommended on the site due to the shallow deposits and the small amount of recovered cultural material.

### **41BX2111**

Site 41BX2111 was also recorded as an ephemeral campsite along Segment 4 of the proposed trail. Eight shovel tests were excavated to delineate site boundaries (Figure 4-20). Five shovel tests were positive for cultural material that included a biface, burned rock (3.31 g), debitage (n=5), and one lithic perforator (Table 4-7). Cultural material was encountered in Level 1 (1-10 cmbs) through Level 6 (50-60 cmbs) of various shovel tests. However, cultural material was not found in consecutive levels in any one shovel test. Shovel testing was not placed north of ST 99 due to the slope and distance from APE. To the east of ST 94 was a San Antonio Water System (SAWS) sewer manhole, as seen in Figure 4-21. The Salado Creek lies to the south of the site. Further work was not recommended for 41BX2111 as material was sparse, and no diagnostic artifacts were encountered. Moreover, impacts for the proposed trail will not go beyond the current grade.

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*Figure 4-15. Map of Segment 4 and shovel tests (see Figure 4-16 for designations of STs 60, 87-93 and Figure 4-20 for STs 68, 94-99).*

Table 4-5. Segment 4 Shovel Tests

<b>ST</b>	<b>Site</b>	<b>Depth (cmbs)</b>	<b>Cultural Material</b>
57		34	negative
58		37	negative
59	41BX879	26	negative
60	41BX879	51	positive
61		15	negative
62		20	negative
63		36	negative
64		27	negative
65		60	negative
66		20	negative
67	41BX2111	8	positive
68	41BX2111	50	positive
87	41BX879	40	positive
88	41BX879	60	positive
89	41BX879	38	positive
90	41BX879	60	positive
91	41BX879	60	negative
92	41BX879	30	negative
93		45	negative
94	41BX2111	40	positive
95	41BX2111	27	positive
96		20	negative
97		60	negative
98		19	negative
99	41BX2111	60	positive

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Figure 4-16. Map of site 41BX879.

Table 4-6. Artifacts Recovered from 41BX879

ST/Level	Burned Rock	Debitage	Total
<b>60</b>			
1		1	1
<b>87</b>			
2	1 (79.6 g)	1	2
3	1 (17.56 g)		1
<b>88</b>			
2	1 (1.01 g)		1
<b>89</b>			
2	1 (0.92 g)	1	2
3		1	1
<b>90</b>			
1	1 (8.93 g)		1
<b>Grand Total</b>	<b>5 (108.2 g)</b>	<b>4</b>	<b>9</b>



Figure 4-17. Drainage that is present on site 41BX879.



*Figure 4-18. Chert debitage on surface near ST 91.*



*Figure 4-19. Impacts to the site by construction.*

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*Figure 4-20. Map of site 41BX2111.*

Table 4-7. Artifacts Recovered from 41BX2111

ST/Level	Biface	Burned Rock	Debitage	Perforator	Total
<b>67</b>					
3			1		1
<b>68</b>					
3		1 (0.59 g)	1	1	3
5		2 (1.8 g)			2
<b>94</b>					
2			1		1
3			1		1
<b>95</b>					
1	1				1
<b>99</b>					
5		1 (0.92 g)			1
6			1		1
<b>Grand Total</b>	<b>1</b>	<b>4 (3.31 g)</b>	<b>5</b>	<b>1</b>	<b>11</b>



Figure 4-21. SAWS manhole located immediately east of 41BX2111.

### **41BX9 and 41BX10**

Sites 41BX9 and 41BX10 were recorded in the 1970s and, according to the Texas Sites Atlas (2015), should be located on Salado Creek along Segment 4. During the current investigations, the field crew attempted to revisit the sites based on coordinates in the Texas Sites Atlas. However, there was no evidence of the sites at these locales, and only evidence of the current creek channel was noted. The revisit and reevaluation were important in considering any indirect affects to the sites, such as pedestrian traffic, from the proposed trail.

## **Salado Creek: Segment 5**

Segment 5 of the proposed Howard Peak trail represents the last stretch of the proposed trail that ends at Huebner Road (Figure 4-22). As seen Figure 4-22, the project corridor is bound by residential development to the east and by the Salado Creek to the west. One new site (41BX2110) was documented on this segment. Eighteen shovel tests were excavated along Segment 5 (Table 4-8).

### **41BX2110**

Site 41BX2110 was documented as an ephemeral campsite during shovel testing and archaeological survey of Segment 5 (Figure 4-23). The site is bound by Salado Creek to the north (Figure 4-24) and by residential development to the south (Figure 4-25). Seven shovel tests were excavated to determine the vertical and horizontal extent of the site boundaries. Five shovel tests were positive for cultural material, and one complete nondiagnostic biface was found on the surface next to ST 74. Cultural deposits were encountered in Levels 1 (0-10 cmbs) through 4 (30-40 cmbs) as seen in Table 4-9. Artifacts recovered from the site included burned rock (211.6 g), debitage (n=10), and two edge-modified flakes (Figure 4-26). It appears the site is set on a gravel bar of the Salado Creek as evident in the heavy gravel encountered in shovel tests (Figure 4-27). Due to the lack of context of the artifacts, further work was not recommended at the site.

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*Figure 4-22. Map of Segment 5 and shovel tests.*

Table 4-8. Segment 5 Shovel Tests

<b>ST</b>	<b>Site</b>	<b>Depth (cmbs)</b>	<b>Cultural Material</b>
69		10	negative
70		10	negative
71		15	negative
72		10	negative
73		25	negative
74	41BX2110	50	positive
75		5	negative
76		30	negative
77		24	negative
78		70	negative
79		20	negative
80		27	negative
81	41BX2110	44	positive
82	41BX2110	37	positive
83		45	negative
84	41BX2110	40	positive
85	41BX2110	19	positive
86		15	negative

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*Figure 4-23. Map of site 41BX2110.*



*Figure 4-24. Salado Creek that bounds site 41BX2110 to the north.*



*Figure 4-25. Crew excavating shovel tests at site 41BX2110; note residential development in proximity to site.*

Table 4-9. Artifacts Recovered from 41BX2110

ST/Level	Burned Rock	Debitage	Edge-modified Tool	Total
<b>74</b>				
3	1 (49.8 g)			1
4		2		2
<b>81</b>				
2		3		3
3		1	1	2
4	1 (1.0 g)			1
<b>82</b>				
3		1		1
<b>84</b>				
1	1 (77.48 g)	1	1	3
3		1		1
4	2 (84.32 g)			2
<b>85</b>				
2		1		1
<b>Grand Total</b>	<b>5 (211.6 g)</b>	<b>10</b>	<b>2</b>	<b>17</b>



Figure 4-26. Biface on surface of 41BX2110.



*Figure 4-27. Heavy gravel encountered in ST 82.*

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## **Chapter 5: Summary and Recommendations**

The CAR conducted an archaeological pedestrian survey along with shovel testing in October 2015 for the proposed Howard Peak Greenway Trail System. The principal goal of the survey was to identify and document all prehistoric and/or historic archaeological sites that may be impacted by the proposed park trail that will run along the banks of Leon Creek and Salado Creek. In total, 99 shovel tests were excavated during archeological investigations. Results of the CAR's work along the proposed trail corridor were divided into five segments. Segments 1 through 3 were located along Leon Creek, while the remaining two segments were along Salado Creek. Three new sites (41BX2109, 41BX2110, and 41BX2111) were documented by CAR crew, and one previously recorded site (41BX879) was revisited.

Twenty-three shovel tests were excavated in Segment 1 of the project area. As part of the work conducted by the CAR in this segment, one new site 41BX2109 was recorded. Three shovel tests were positive for burned rock and debitage. In Segment 2 of the APE, 17 shovel tests were excavated, and no cultural material was encountered. Sixteen shovel tests were excavated along Segment 3, and no cultural material was recovered. In Segment 4, 25 shovel tests were excavated, resulting in the documentation of the newly recorded site 41BX2111. Previously recorded site 41BX879 was revisited during the archaeological work on this segment. Shovel testing by the CAR crew at site 41BX879 revealed debitage and burned rock. The site boundaries were not changed. Site 41BX2111 was recorded as an ephemeral campsite that included burned rock, debitage, a bifacial tool, and a perforator. In Segment 5, 18 shovel tests were excavated. Site 41BX2110 was recorded and documented on this portion of the APE. Cultural material recovered from this site included debitage, burned rock, and edge-modified tools. This site was located on a gravel bar of the Salado Creek, and although artifacts were encountered, they appear to be a result of flooding events.

Attempts were made to revisit 41BX9 and 41BX10 to reevaluate for indirect/secondary effects, but the sites could not be relocated based on the available coordinates. Furthermore, neither site will be impacted by the proposed trails but could be indirectly impacted by trail pedestrian traffic.

No features or temporally diagnostic artifacts were identified at any of the sites, and the majority of the cultural material was in shallow deposits. The lack of sediments, dearth of deposits, and low density of artifacts at all four sites suggest they do not possess potential for future research. Therefore, the CAR recommends no further archaeological work and that the proposed trail proceed as planned. The CAR also recommends the sites be listed as ineligible for the National Register of Historic Places (NRHP).

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