



Archeological Background Study of Pugh Park – Christoval Trail Improvements

CSJ 2222-18-019, Tom Green
County, San Angelo District, Texas

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November 2017

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.

Introduction

This project may require compliance both with Section 106 of the National Historic Preservation Act and with the Texas Antiquities Code. The purpose of this document is to identify risks for archeological historic properties within the project's Area of Potential Effects (APE). The document also considers whether any cemeteries may extend into the APE, requiring compliance with the Texas Health and Safety Code.

The following table (Table 1) lists the results of desktop review for the APE's setting, land use history, and potential for archeological resources. This report concludes with separate recommendations regarding project effects and the need for additional work within shallow deposits less than three feet in depth and within deep, Holocene-age deposits of three feet or greater depth, if such deep deposits are present.

Table 1: Project Setting Information and Evaluation.

Y/N	Required Information	Comments/Explanation/Source
Project Area of Potential Effects		
	USGS 7.5' topographic quadrangle project location map (or equivalent if a 7.5' quadrangle is unavailable) is attached.	Christoval 7.5-minute Topographic Map; see Figure 1.
	Project description is attached.	The project involves the construction and renovation of three miles of trail and trail amenities (trail signage, picnic area, water fountains) within Pugh Park; see Figure 2 and attached Grant Application.
	If available, other project documentation attached (check all that apply). <input checked="" type="checkbox"/> Project layouts or plans. <input type="checkbox"/> Typical sections. <input type="checkbox"/> Profiles.	See Figure 3.
	Project limits to and from (logical termini):	The project is to occur within Pugh Park and is located 0.15-mile south of the intersection of Toe Nail Drive and Church Street.
	Depth of impacts: 2 feet to greater than 5 feet Typical: 2 Maximum (if different from typical):	Based on typical trail construction and renovation and the construction of its trail amenities, it is expected that most trail impacts will not exceed two feet.
	Typical APE width:	The width of the trail will be ten feet; However for purposes of defining the APE a five foot buffer should be placed on either side of the trail.
	Project acreage:	The APE encompasses 7.58 acres.
	New ROW acreage:	None. Proposed construction will occur entirely within Pugh Park.

Easement acreage:	N/A.
Documentation of Project Setting	
Geologic Atlas of Texas map attached.	See Figure 4.
Soils map attached.	See Figure 5.
Texas Archeological Sites Atlas map attached, depicting any sites within one kilometer of the APE.	See Figure 6.
<p>Historic maps attached (check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Topographic map(s). <input type="checkbox"/> Soil map(s). <input type="checkbox"/> Road map(s). <input type="checkbox"/> As-built plans. <input type="checkbox"/> Other (identify): 	None available for area.
Aerial images attached.	Modern aerial photograph, see Figure 2; 1971 USGS aerial photograph, see Figure 7.
Project area photographs attached.	See Figure 8.
FEMA flood hazard map attached.	See Figure 9.
Analysis of Project Setting	
Have archeological sites been identified within the area of potential effects (APE) or within 150 feet of the APE?	Yes, a survey conducted by the Brazos Valley Research Associates (BVRA) identified site 41TG581 within the northwestern portion of the APE. The prehistoric site contained a lithic scatter and two bedrock mortars in a limestone boulder. It was reported that the site was very disturbed and locals had been

	collecting artifacts off the sloping banks for many years. It was reported that the site had potential for listing on the NRHP and for consideration for a SAL designation.
Are any known historic cemeteries within the APE or within 150 feet of the APE?	No known cemeteries occur within 150 ft of the APE.
Are Holocene-age deposits mapped on Geologic Atlas of Texas or soils maps occur within the APE?	No Holocene-age deposits are located within the APE.
Is the APE within 500 feet of a historically reliable water source?	Yes, the South Concho River lies adjacent to the western boundary of the APE.
Does the APE occur within a wetland or frequently-flooded area?	Yes, the FEMA Flood Hazard Layer identifies that the northwestern extent of the APE lies within a 100-year flood area with BFEs. The rest of the APE lies outside 100 and 500 year floodplains, see Figure 5.
The Atlas map or other information (cite below) shows that occupation typically occurs on particular landform or landforms that the APE does not contain. Citation:	The Texas Archeological Site Atlas indicates that the majority of occupation within the area occurred adjacent to major perennial streams or near springs or on highpoints overlooking waterways. The APE is located adjacent to the South Concho River (THC 2017). Several archeological sites have been documented north and south of the APE along the South Concho River and its terraces.
All settings that may have been favorable for occupation have been subject to previous disturbances including (check all that apply): <input checked="" type="checkbox"/> Previous road construction and maintenance. <input type="checkbox"/> Installation of utilities.	An existing trail system is located within the APE.

	<ul style="list-style-type: none"> <input type="checkbox"/> Modern land use practices like plowing and brush clearing. X Urban and/or suburban development. <input type="checkbox"/> Erosion and scouring by natural processes. X Other (identify): Looting 	<p>A local resident said the area had been greatly disturbed by the construction of the city park.</p> <p>In addition, the resident said locals had been collecting flakes and stone tools from the area for many years.</p>
	<p>Have the majority of the settings with high-potential for archeological sites within the APE been previously surveyed?</p>	<p>No, the majority of settings with high potential for archeological sites have not been previously surveyed.</p>
Conclusions		
	<p>Have previous surveys covered a sufficient proportion of the APE to conclude that the APE is unlikely to contain archeological sites or cemeteries?</p>	<p>No, the majority of the APE has not been sufficiently surveyed to determine whether archeological sites are present.</p>
	<p>Does the APE contain deposits with sufficient integrity that prehistoric archeological sites would have the potential to address important questions? Any such sites would lack integrity of (check all that apply):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Location. <input type="checkbox"/> Design. <input type="checkbox"/> Materials. <input type="checkbox"/> Association. <input type="checkbox"/> Other (identify): 	<p>Historical and modern aerial photographs indicate that the majority of the APE has undergone significant disturbances from modern development and construction. However, site 41TG581 contained a lithic scatter and two bedrock mortars in a boulder and the site could potentially extend into the southern portion of the APE.</p>
	<p>The APE has been sufficiently disturbed that any historic-era archeological</p>	<p>Historical and modern aerial photographs indicate that the only buildings historically near the APE were</p>

	<p>deposits would lack sufficient integrity to address important questions. Any such sites would lack integrity of (check all that apply):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Location. <input type="checkbox"/> Design. <input type="checkbox"/> Materials. <input type="checkbox"/> Association. <input type="checkbox"/> Other (identify): 	<p>farm structures located along FM 2084 in the northwest portion of the APE. However, this area now contains ball fields and any remaining historic period archeological features would likely have no integrity.</p>
	<p>Did the historic map research show that historic-era archeological deposits are not likely to occur within the APE?</p>	<p>The historic-period map research indicates that historic-era deposits are not likely to occur. Moreover, the portion of the APE that was previously surveyed documented no historic-era sites</p>
	<p>Have any historic cemeteries been identified within or adjacent to the APE?</p>	<p>No cemeteries have been identified within or adjacent to the APE.</p>
	<p>Does the APE occur in a setting that was conducive to human occupation and activity?</p>	<p>Yes, the APE occurs within a setting that was conducive to human occupation and activity.</p>

Recommendations

Shallow Deposits

Historical and modern maps and aerial photographs indicate the APE has undergone some levels of disturbance due to the construction of Pugh Park and Christoval High School. A survey conducted by BVRA in 2005 identified site 41TG581 within the western portion of the APE. The prehistoric site contains a lithic scatter and two bedrock mortars in a limestone boulder. It was recorded that the site had potential for listing in the NRHP and for consideration as an SAL. Although not investigated, the archeologist who recorded the site, conjectured that the site continued south and joined with site 41TG229. It was also recorded that construction had greatly disturbed the natural integrity of the site and that locals had visited the area for many years collecting lithic artifacts. Although some disturbances have affected the APE, due to the APE's close proximity between two significant sites, 41TG581 and 41TG229, it is recommended that a survey consisting of

pedestrian inspection and shovel testing to occur within the APE to identify any shallowly buried archeological deposits.

Deep Deposits

Although the APE lies adjacent to the South Concho River and its eastern terrace, the Tarrant soils in the area are very cobbly and shallow, with bedrock present between 10 and 30 inches below the surface. In addition, the proposed trail construction and renovation will not impact deeply buried soils. Therefore, backhoe trenching is not recommended.

References

Texas Historical Commission

2017 Texas Archeological Sites Atlas Online. Electronic document,
<http://nueces.thc.state.tx.us/>,
accessed October 2017.

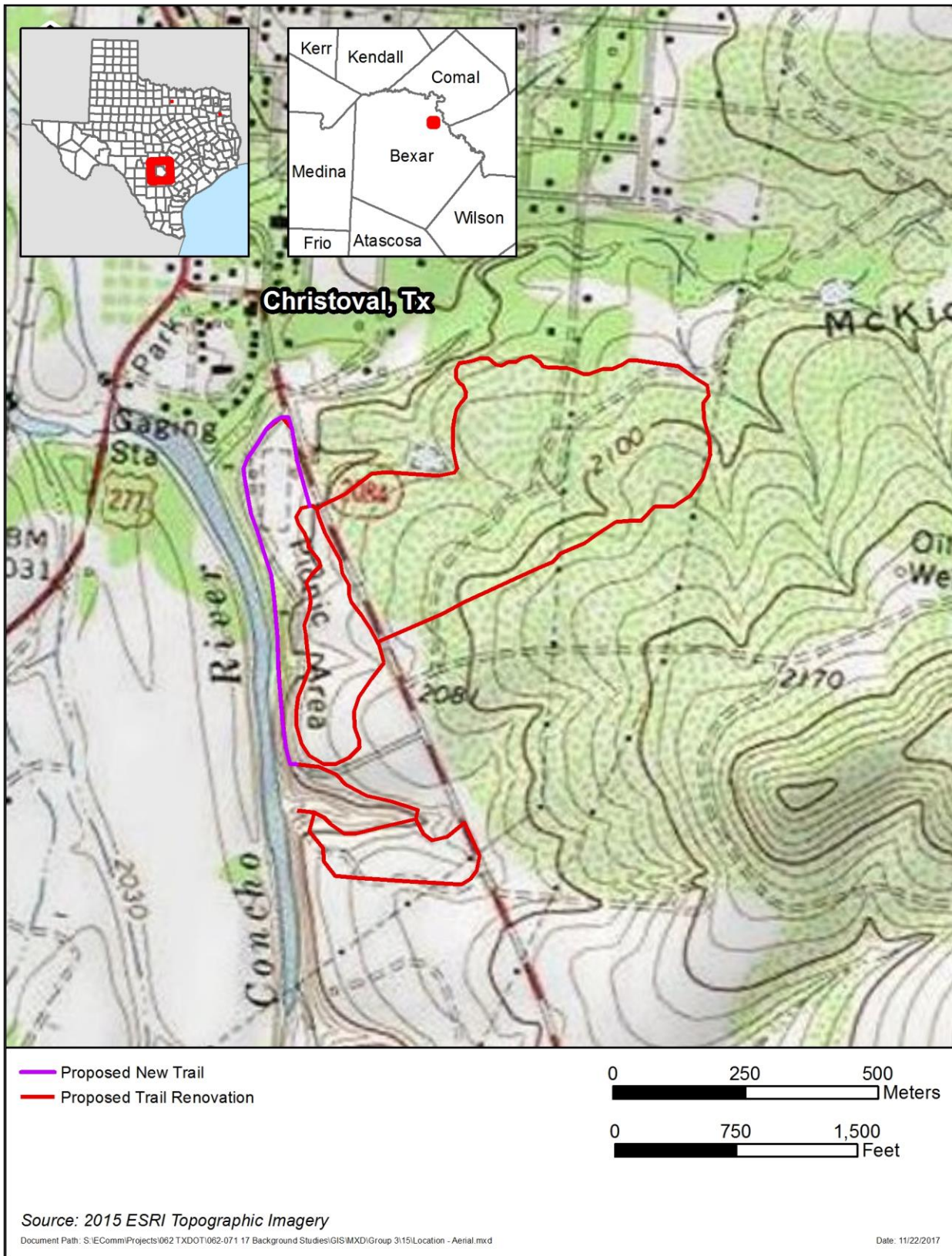


Figure 1: Christoval Quadrangle Topographic Map showing the APE in red and purple.

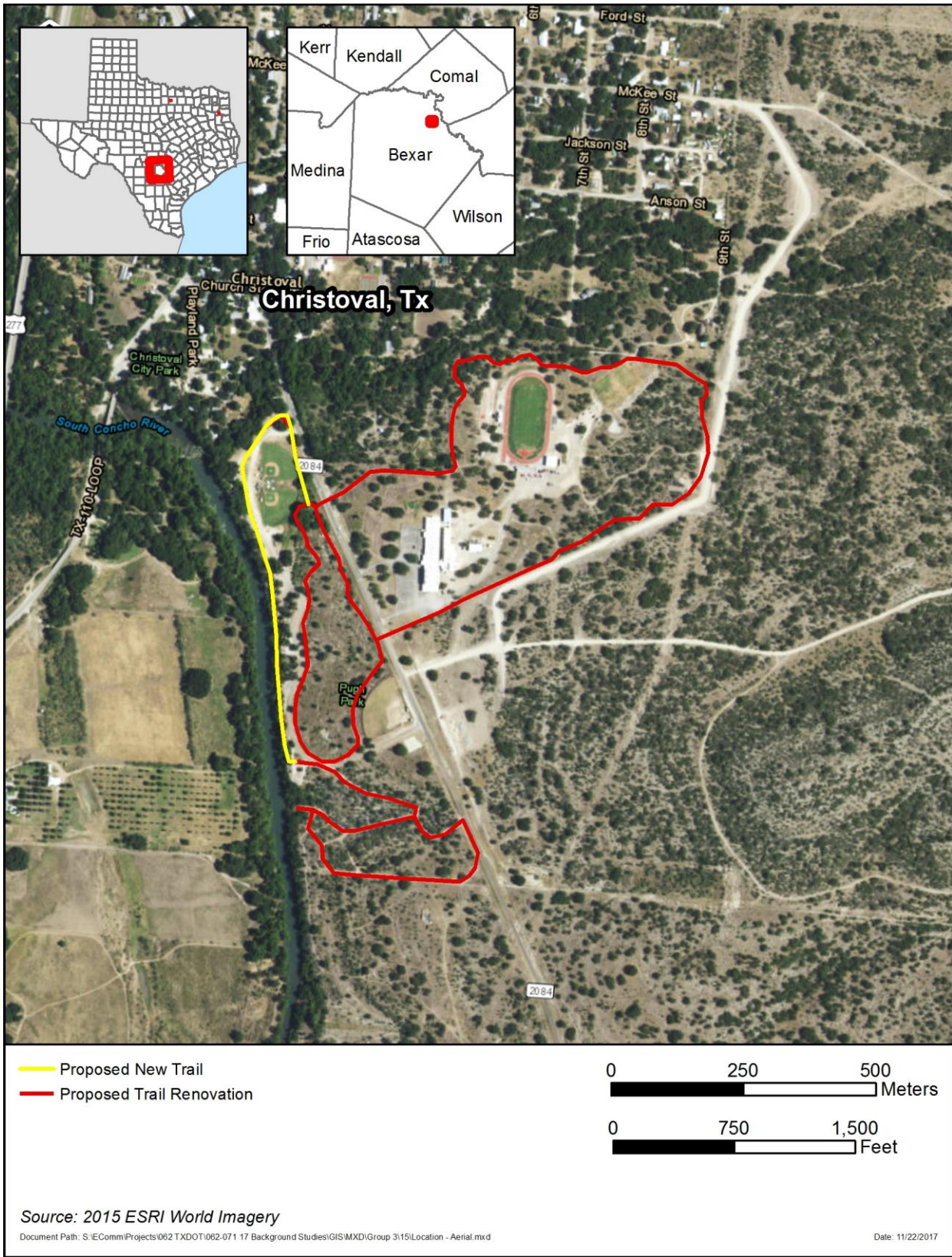


Figure 2: Modern Aerial Photograph showing the APE in red and yellow.

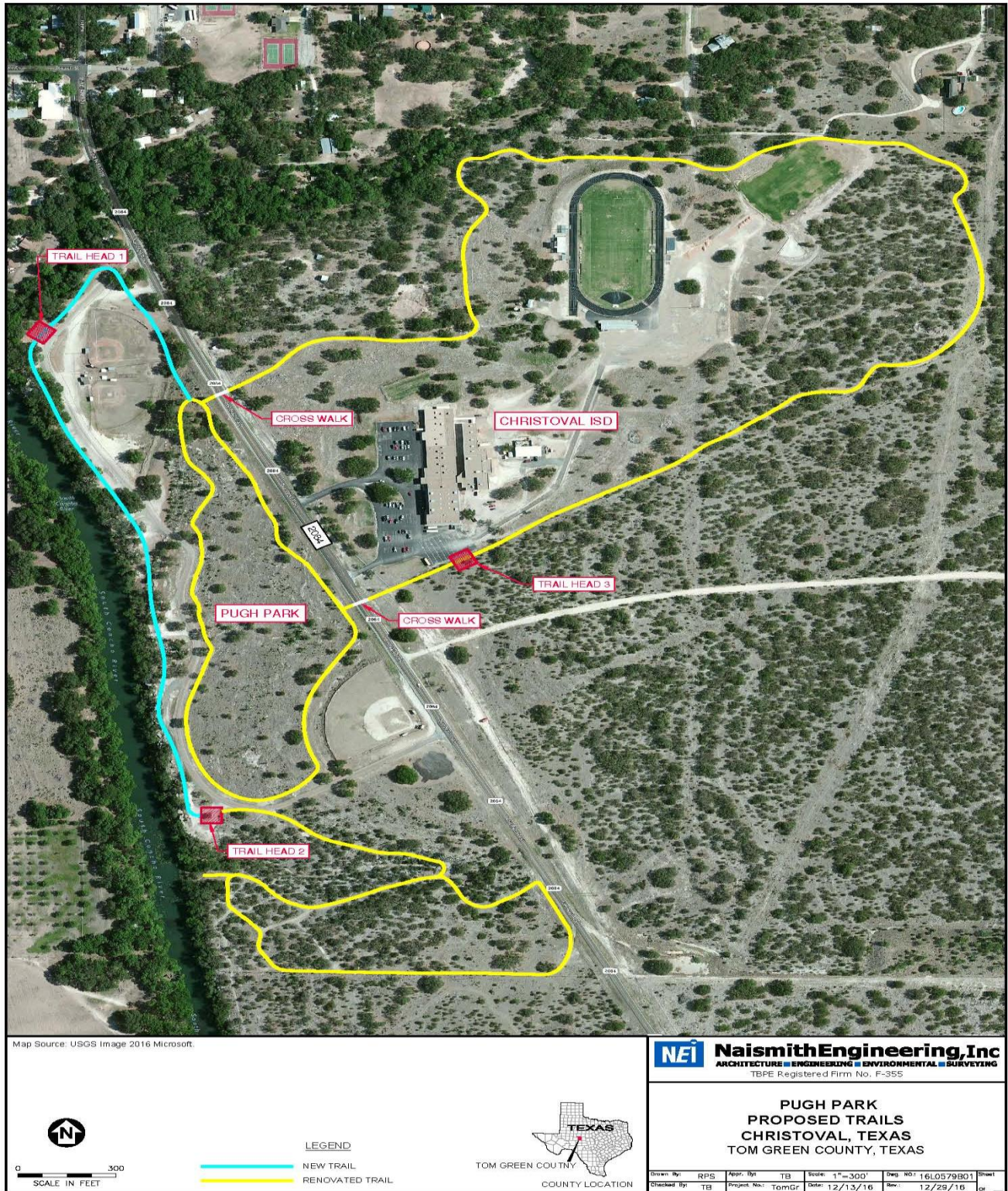


Figure 3: Project Layout

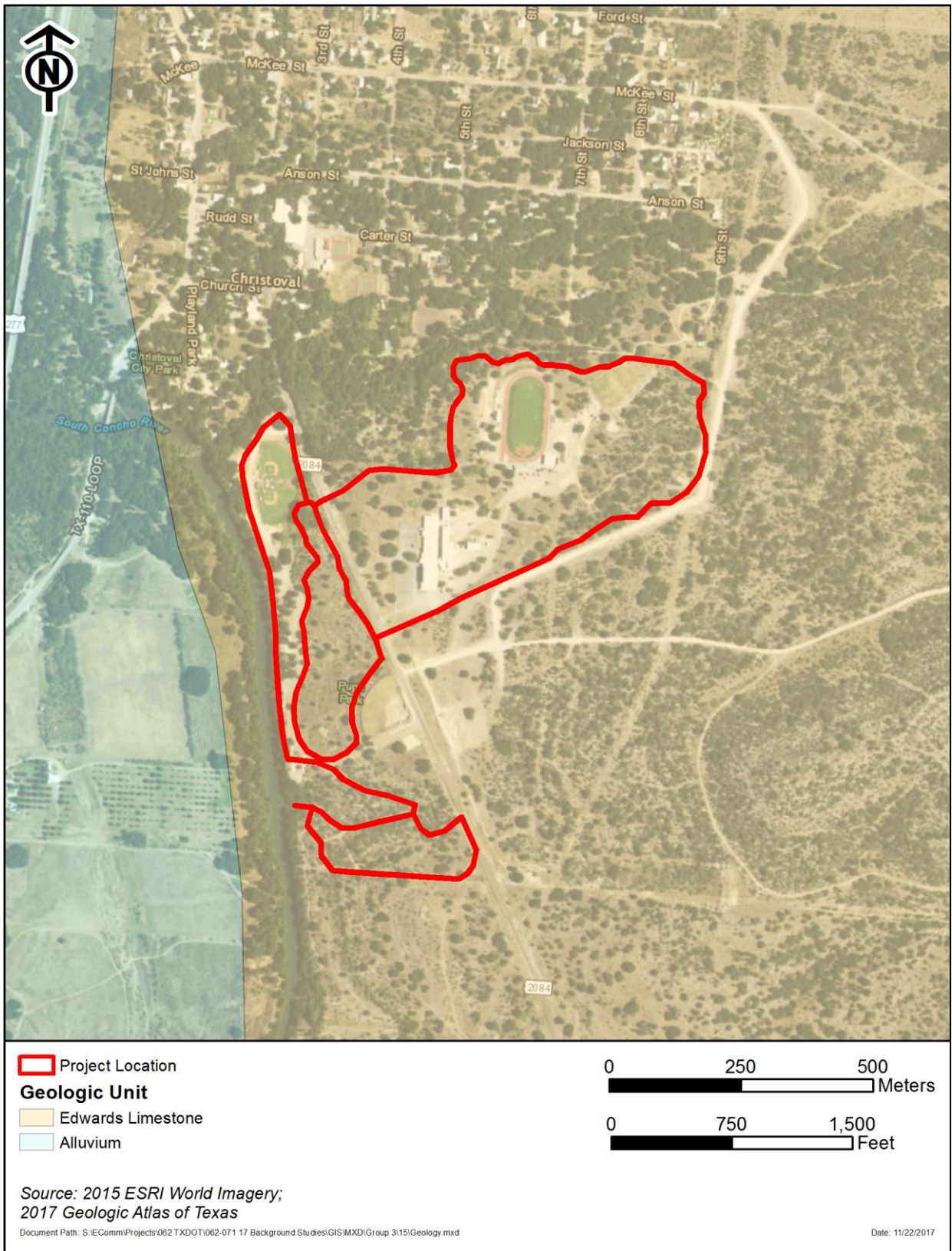


Figure 4: Geologic Atlas of Texas map showing the APE in red.

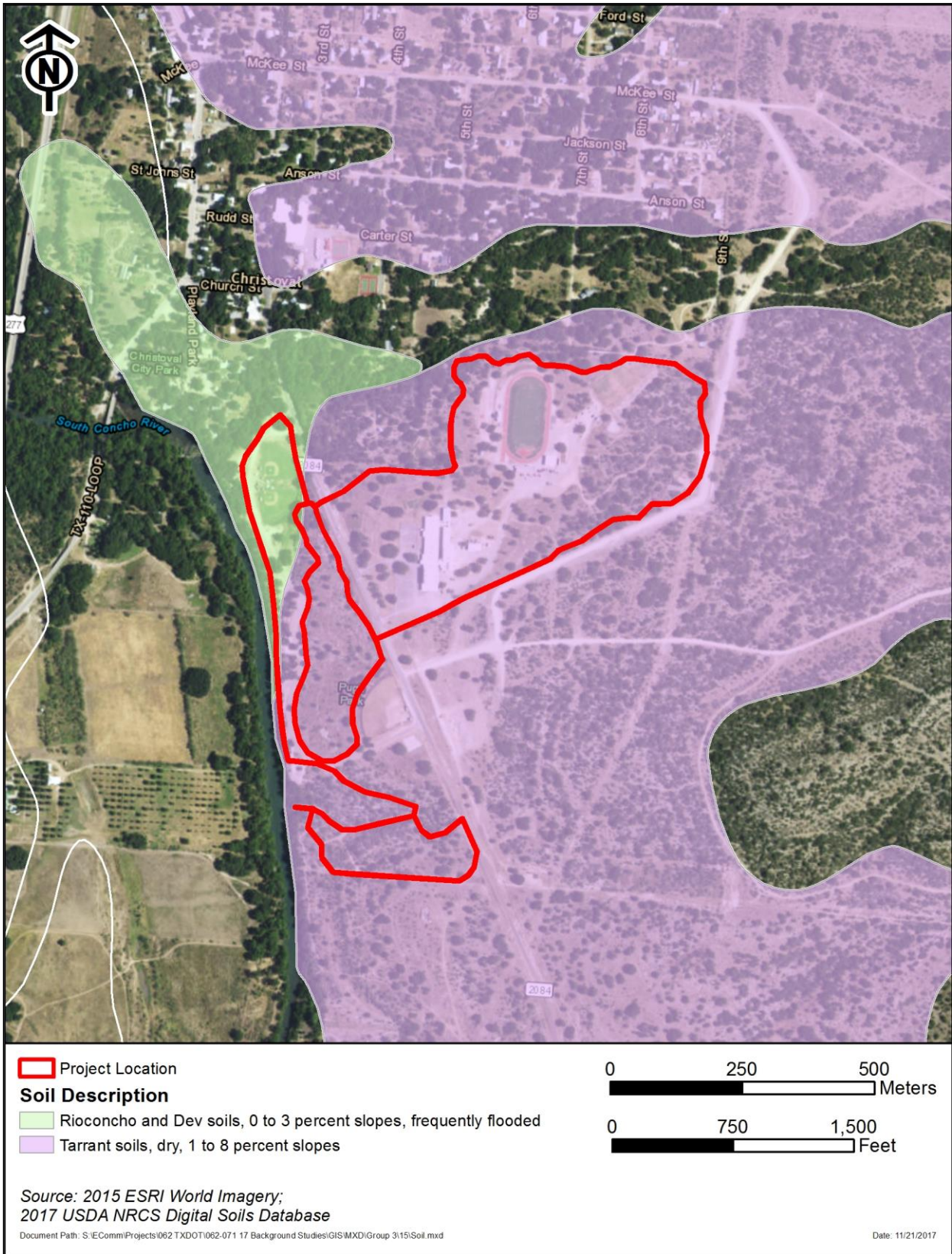


Figure 5: Soil Types Located Within and Adjacent to the APE.

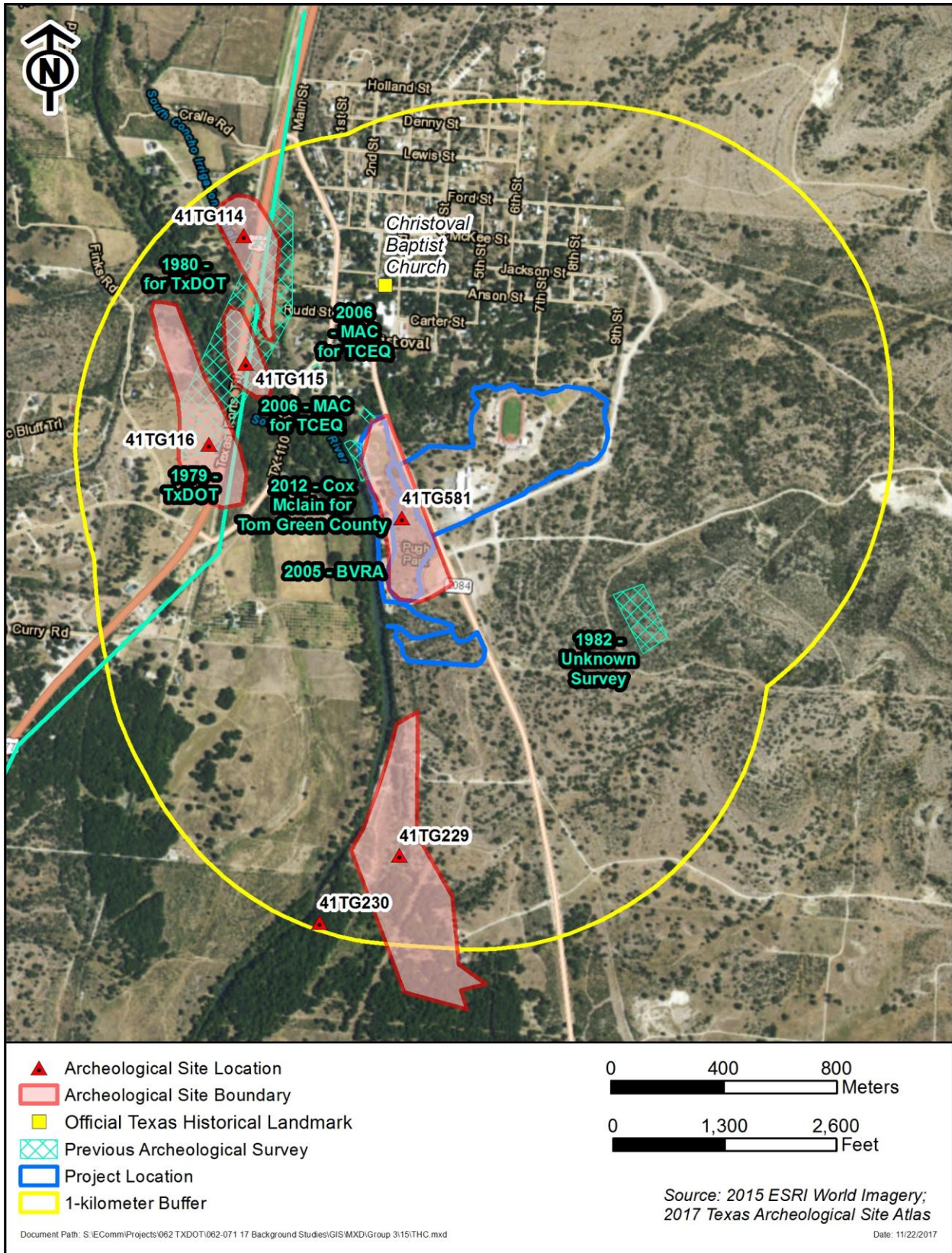


Figure 6: Cultural Resources Located Within 1-kilometer of the APE.

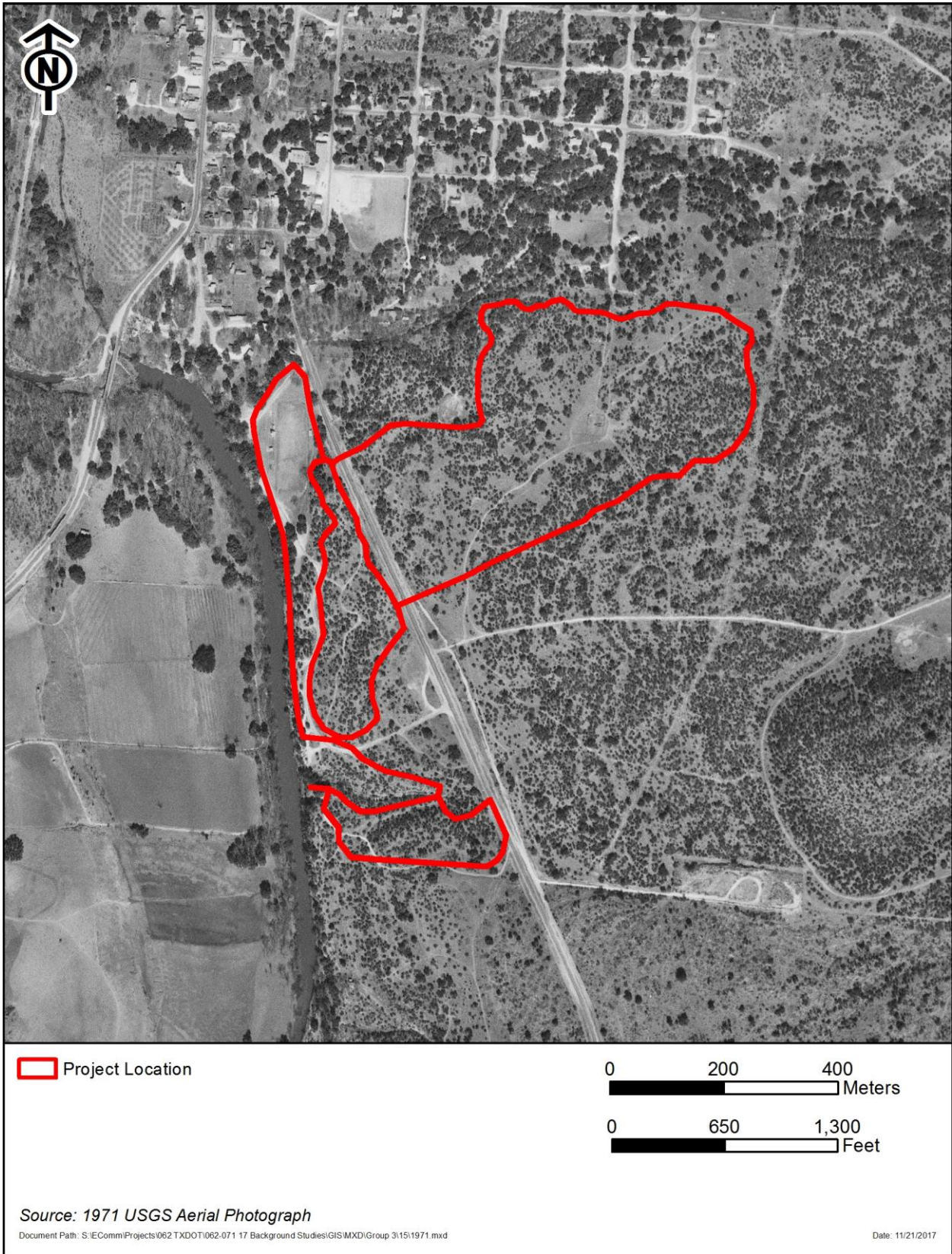


Figure 7: 1971 USGS Aerial Photograph showing the APE in red.

PUGH PARK PROPOSED TRAILS



9 – Pugh Park Proposed New Trail along S. Concho River



10 – Pugh Park Proposed Trail Head 2



11 – Pugh Park Proposed New Trail along S. Concho River



12 – Pugh Park East Trail Renovation

Figure 8: photographs of the project area.

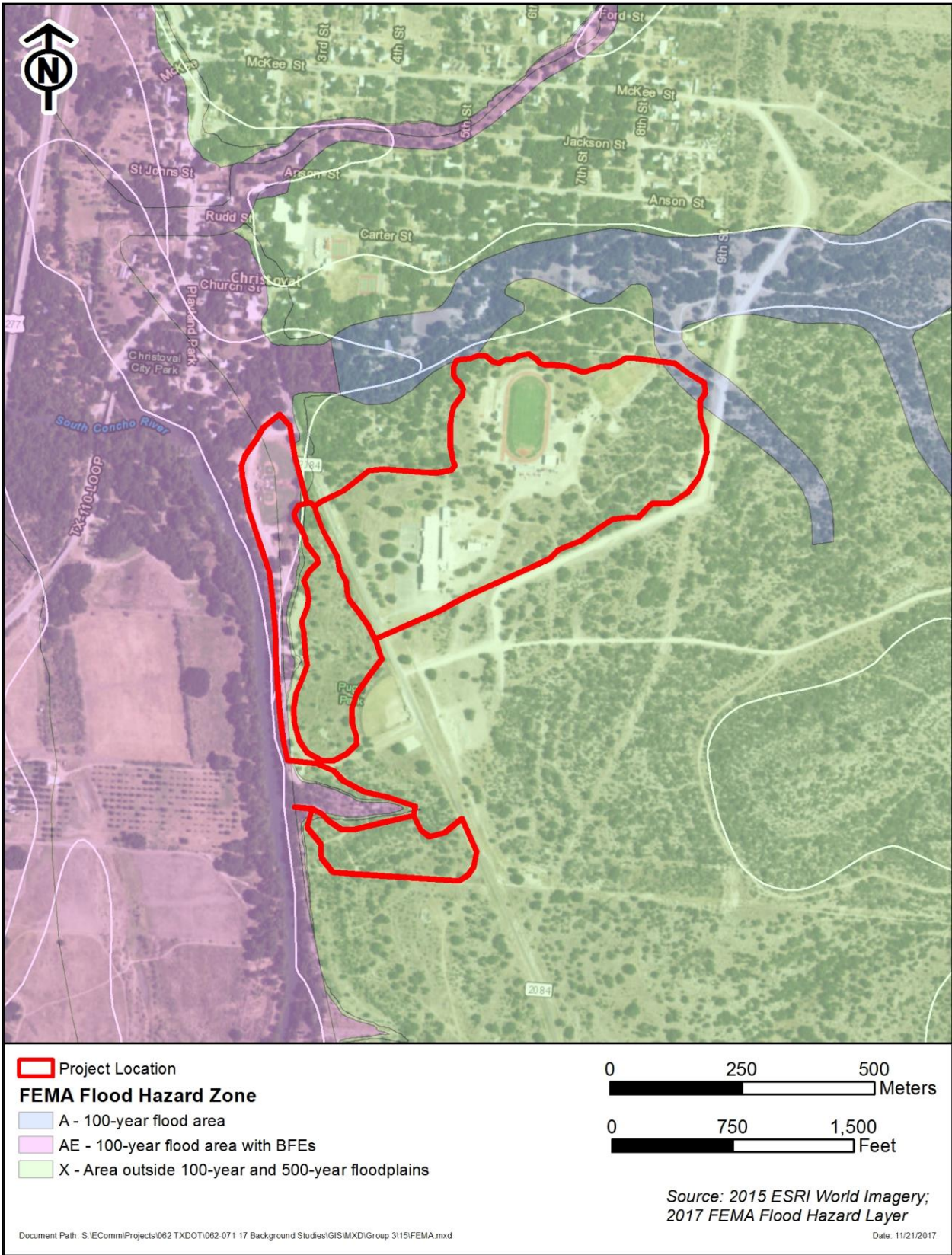


Figure 9: FEMA Flood Hazard Zone Layer showing the APE in red.

This report was written on behalf of the Texas Department of Transportation by



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