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## **Cultural Resources Survey for the Beck Branch Bank Stabilization Project, City of Richardson, Collin County, Texas**

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## Cultural Resources Survey for the Beck Branch Bank Stabilization Project, City of Richardson, Collin County, Texas

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CULTURAL RESOURCES REPORT



CULTURAL RESOURCES SURVEY FOR THE BECK BRANCH BANK STABILIZATION PROJECT,  
CITY OF RICHARDSON, COLLIN COUNTY, TEXAS

Prepared for:  
Texas Historical Commission  
Texas Antiquities Permit #8911

On Behalf of:  
Nathan D. Maier Consulting Engineers, Inc.  
and  
The City of Richardson



September 2019

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**CULTURAL RESOURCES SURVEY FOR THE  
BECK BRANCH BANK STABILIZATION PROJECT,  
CITY OF RICHARDSON, COLLIN COUNTY, TEXAS**

by

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Cultural Resources Report  
September 2019

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## **ABSTRACT**

This report documents the substantive findings and management recommendations of a cultural resources survey conducted by Integrated Environmental Solutions, LLC (IES) for the proposed Beck Branch Bank stabilization project. The proposed project pertains to the stabilization of a portion of the Beck Branch channel within Woods Park, located north of Springbranch Drive between Shiloh Road and Telecom Parkway, in the City of Richardson, Collin County, Texas. As the project will require compliance with a Section 404 of the Clean Water Act through the use of a Nationwide Permit from the U.S. Army Corps of Engineers (USACE), portions of the project will be subjected to the provisions of the National Historic Preservation Act (NHPA) of 1966, as amended. Additionally, as the City of Richardson is a political subdivision of the State of Texas, the project is subject to the provisions of the Antiquities Code of Texas (ACT).

The goal of this survey was to locate cultural resources that could be adversely affected by the proposed development, and to provide an evaluation of the eligibility potential of each identified resource for listing in the National Register of Historic Places (NRHP) or for designation as a State Antiquities Landmark (SAL). This cultural resources survey was conducted by Project Archeologist Anne Gibson and Archeological Field Technician Trey Lyon on 21 May 2019. All work conformed to 13 Texas Administrative Code 26, which outlines the regulations for implementing the ACT, and was conducted under Antiquities Permit No. 8911.

During the survey, no cultural resources were encountered within the APE. No artifacts were collected as part of this survey. All project-related records and field data will be temporarily stored at the IES McKinney office and permanently curated at the Center for Archeological Research at The University of Texas at San Antonio. No further cultural resources investigation or evaluation of the APE is recommended. However, if any cultural resources are encountered during construction, the operators should stop construction activities in the vicinity of the inadvertent discovery, and immediately contact the project cultural resources consultant to initiate coordination with the USACE and Texas Historical Commission (THC) prior to resuming construction activities.

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# CHAPTER 1: INTRODUCTION

This report presents the results of a cultural resources survey conducted by Integrated Environmental Solutions, LLC (IES), under contract to Nathan D. Maier Consulting Engineers, Inc., on behalf of the City of Richardson. The purpose of these investigations was to conduct an inventory of cultural resources (as defined by Code of Federal Regulations, Title 36, Section 800.4 [36 CFR 800.4]) present within the proposed project area or Area of Potential Effects (APE) 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 (NHPA) of 1966, as amended, or for designation as State Antiquities Landmarks (SAL) under the Antiquities Code of Texas (ACT; Texas Natural Resources Code, Title 9, Chapter 191 [9 TNRC 191]) and associated state regulations (Texas Administrative Code, Title 13, Chapter 26 [13 TAC 26]). The goal of this survey was to locate, identify, and assess archeological sites, buildings, structures, or other cultural resources within the proposed survey area that may be eligible for inclusion in the NRHP or designation as SALs. This investigation was conducted in accordance with 36 CFR 60.4 and 13 TAC 26, which outline the regulations for implementing Section 106 of the NHPA and the ACT, respectively. This report satisfies the NHPA Section 106 and the ACT requirements of the proposed project and was prepared according to guidelines issued by the Council of Texas Archeologists (CTA 2002). A description of the proposed project area, pertinent regulations, environmental and historical contexts, field and analytical methods, results of the investigations, and recommendations regarding the identified cultural resources are provided in this document.

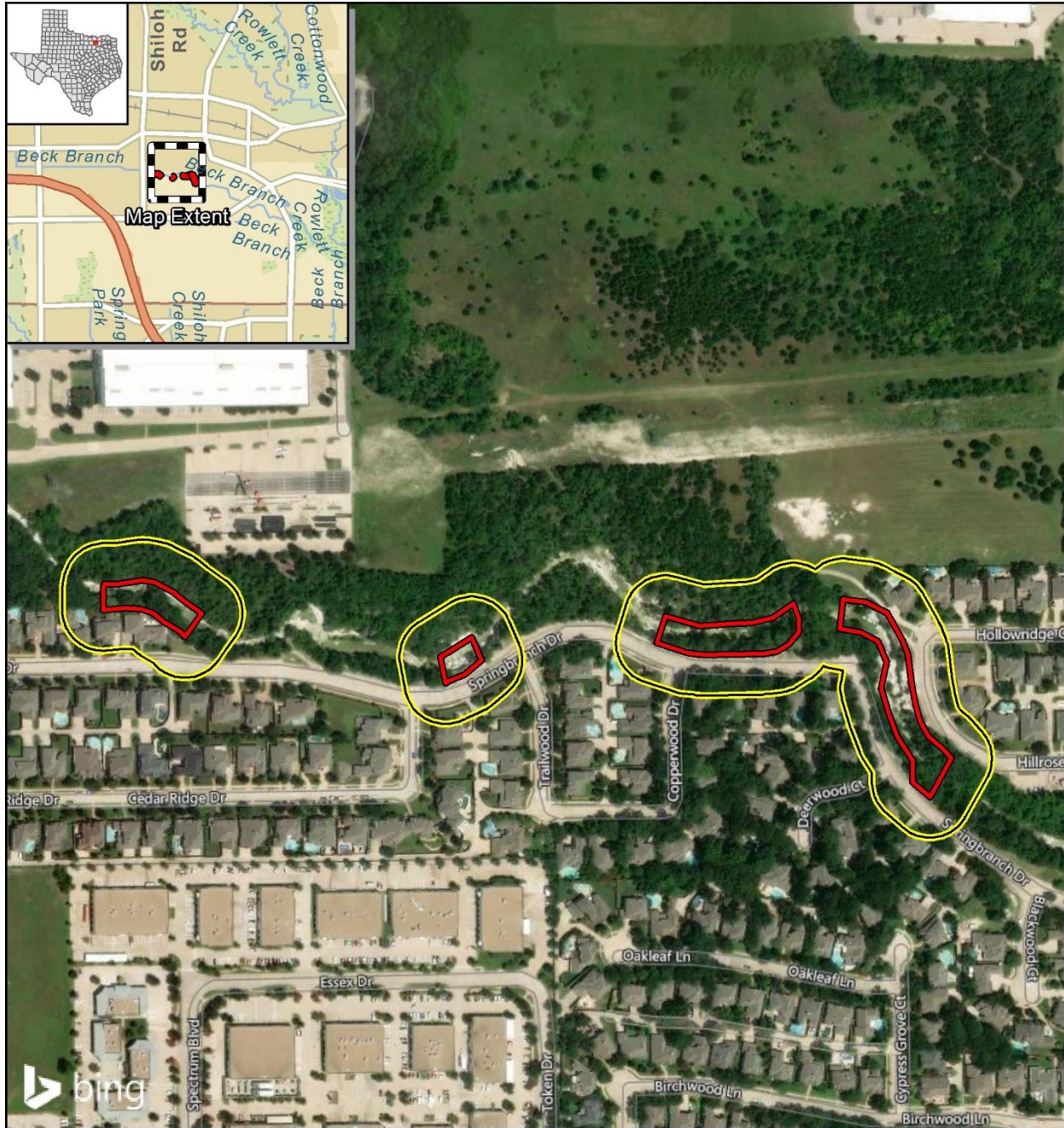
## **1.1 Project Description**

This scope of work has been developed by IES to perform an intensive cultural resources survey in advance of the proposed stabilization of a portion of the Beck Branch channel within Woods Park, located north of Springbranch Drive between Shiloh Road and Telecom Parkway in the City of Richardson, Collin County, Texas. The project corridor or Area of Potential Effects (APE) is plotted on the Plano 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle map and recent aerial imagery (**Figures 1.1 and 1.2**).

## **1.2 Regulatory Framework**

The City of Richardson is a political subdivision of the State of Texas and the project will therefore be subjected to the provisions of the ACT. In addition, portions of the proposed project require a permit from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). The project will consequently require compliance with the National Environmental Policy Act (NEPA) and Section 106 of the NHPA. All investigations were conducted in accordance with 36 CFR 800.4 and 13 TAC 26, which outline the regulations for implementing Section 106 of the NHPA and the ACT, respectively.

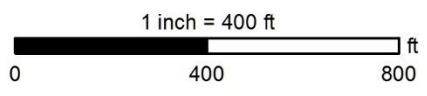
Identification, documentation, and evaluation of archeological sites was completed in accordance with the provisions of the Secretary of the Interior's Standards. Archeological investigations were performed and documented at sufficient levels to satisfy Texas State Historic Preservation Officer (SHPO) and THC requirements for determining the presence of archeologically significant properties within the APE in accordance with 13 TAC 26, which outlines the regulations for implementing the ACT. The goal of the survey was to locate, identify, and assess any cultural resources that could be adversely affected by proposed development, and to evaluate such resources for their potential eligibility for listing as a State Antiquities Landmark (SAL) or eligibility for listing in the NRHP.

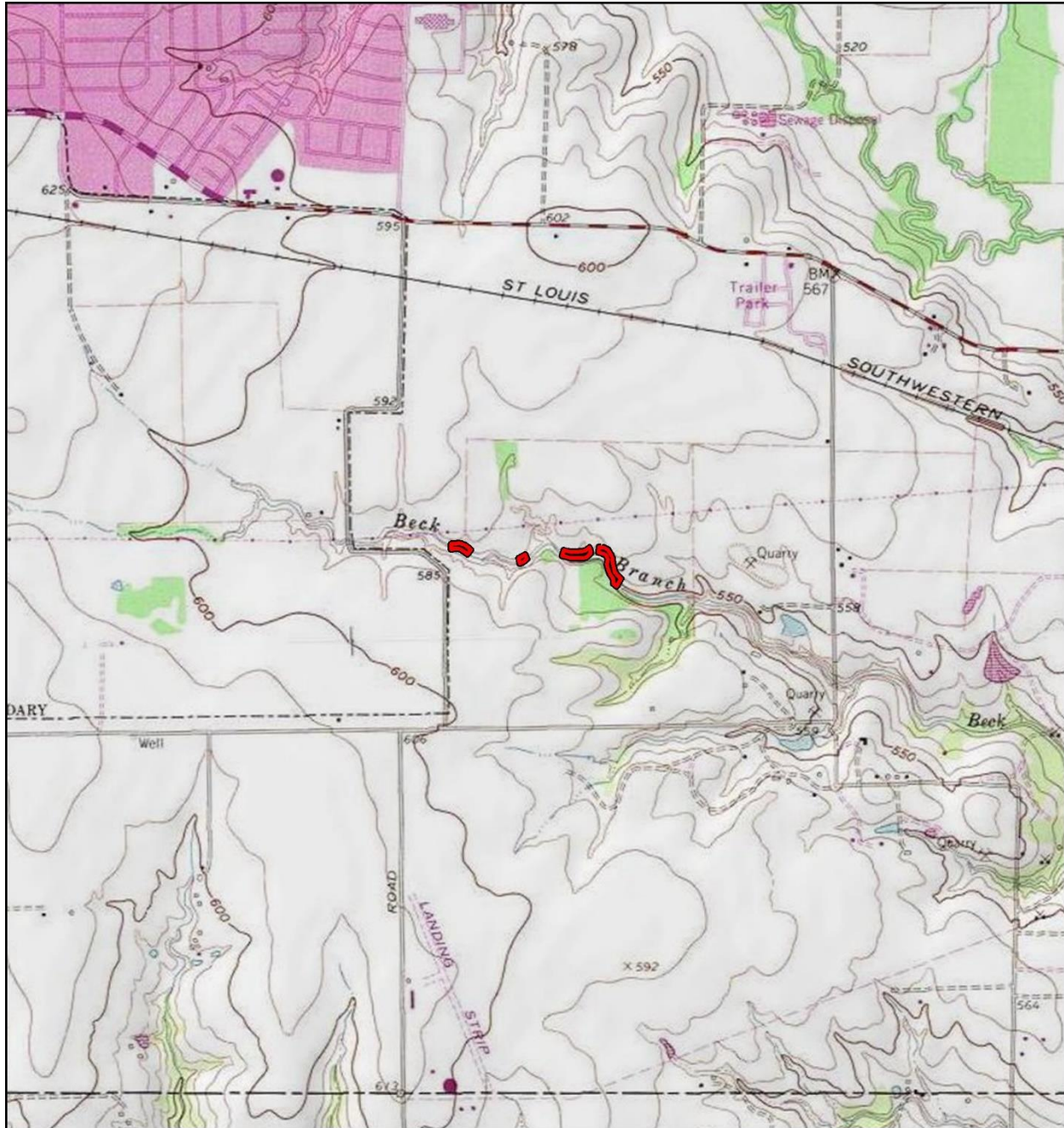




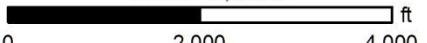
**Figure 1.1**  
General Location Map

County: Collin  
 State: Texas  
 Date map created: 6/24/2019  
 Source: (c) 2019 Microsoft Corporation  
 and its data suppliers; ESRI 10.6  
 Streetmap  
 IES Project Ref: 04.051.046

- Area of Potential Effects - Direct
- Area of Potential Effects - Indirect





<p><b>Figure 1.2</b> Topographic Setting</p>	<p> Area of Potential Effects - Direct</p> <p style="text-align: right;">N </p> <p style="text-align: right;">1 inch = 2,000 ft  0 2,000 4,000 ft</p>
<p>County: Collin State: Texas Date map created: 6/24/2019 Source: USGS Topographic Map 7.5-min quadrangle(s): Plano (1974); Garland (1974) IES Project Ref: 04.051.046</p>	

### 1.2.1 Antiquities Code of Texas

As the City of Richardson is a political entity of the State of Texas, it is required to comply with the ACT. The ACT, as outlined in the TAC 13 Part II and the TNRC 9 Chapter 191, requires that the THC staff review any action by a state agency or a state political subdivision that has the potential to disturb historic and archeological sites on public land. Public land is defined as property under the control of a subsidiary of the state, which includes permanent and temporary easements on private property. Examples of projects that require review include reservoirs constructed by river authorities and water districts, construction of recreational parks or the expansion of existing facilities by city governments, energy exploration by private companies on public land, and construction by a city or county government that exceeds 5 acres (ac) or 5,000 cubic yards, whichever is less. If the activity occurs inside a designated historic district, or affects a recorded archeological site, project review by the THC is required, regardless of project size. The ACT also requires THC review for any project less than the thresholds mentioned above but requires subsurface archeological investigations to determine the presence of absence of archeological materials on public land. This survey was conducted under Antiquities Permit No. 8911.

### 1.2.2 Section 404 of the Clean Water Act

The NHPA (54 U.S. Code [USC] 306101), specifically Section 106 of the NHPA (54 USC 306108), requires the SHPO, an official appointed in each state or territory, to administer and coordinate historic preservation activities, and to review and comment on all actions licensed by the federal government that will have an effect on properties listed in the NRHP, or eligible for such listing. Federal actions include, but are not limited to, construction, rehabilitation, repair projects, demolition, licenses, permits, loans, loan guarantees, grants, and federal property transfers. As the project will require a Section 404 of the CWA permit from the USACE, it would be subject to the provisions of the NHPA of 1966, as amended.

## **1.3 Area of Potential Effects**

### 1.3.1 Direct APE

The APE extends along several portions of the Beck Branch channel for approximately 0.21 mile (mi; 1,120 feet [ft]). The APE varies in width from 60 to 110 ft along most of the channel and encompasses approximately 1.94 ac. Although project designs for the proposed project are in the early stage of development, potential impacts anticipated for the project will consist of channel stabilization, which will be accomplished by altering the channel cross-section via grading and adding gabion walls and toe protection to the channel, ultimately reducing the shear stress on the channel bed and its banks, and outfall protection for three existing outfall structures that empty into the channel. Depths of impacts associated with the proposed project will generally vary between 6 to 12 ft, depending on the location along the channel.

### 1.3.2 Indirect APE

As the project will require federal permitting from the USACE, an assessment of the indirect effects will be required within areas of USACE jurisdiction to satisfy Section 106 of the NHPA requirements. Although final project designs are not currently available, potential indirect effects of the proposed project is limited to the visual impacts of the construction of in-channel erosion control structures on historic-age (i.e., 50 years old or greater) structures and buildings in the immediate vicinity. To account for these potential indirect effects, a 100-ft-wide indirect effects APE was evaluated surrounding the direct effects APE.

#### **1.4 Administrative Information**

**Sponsor:** City of Richardson

**Review Agency:** THC; USACE

**Principal Investigator:** Christopher Goodmaster, MA, RPA

**IES Project Number:** 04.051.046

**Days of Field Work:** 21 May 2019

**Area Surveyed:** 1.94 ac

**Resources Recommended Eligible for NRHP Under 36 CFR 60.4:** None

**Resources Recommended Not Eligible for NRHP Under 36 CFR 60.4:** None

**Resources Recommended Eligible for SAL Under 13 TAC 26:** None

**Resources Recommended Not Eligible for SAL Under 13 TAC 26:** None

**Curation Facility:** No artifacts were collected. Field notes and project records will be temporarily stored at the IES office in McKinney and permanently curated at the Center for Archeological Research (CAR) at The University of Texas at San Antonio (UTSA).

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## CHAPTER 2: ENVIRONMENTAL BACKGROUND

### 2.1 Environmental Setting

#### 2.1.1 Climate

Collin County lies in the north-central part of the State of Texas. Annual rainfall averages between approximately 35.01 to 42.01 inches (in). About half of the rain usually falls between April and May, with July and August being the two driest months of the year. The subtropical region tends to have a relatively mild year-round temperature with the occasional exceedingly hot and cold periods (Estaville and Earl 2008).

#### 2.1.2 Topography, Geology, and Soils

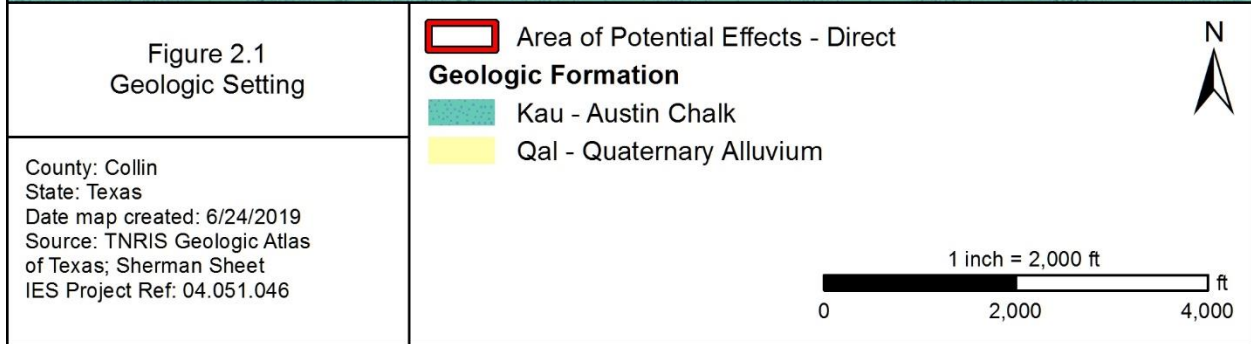
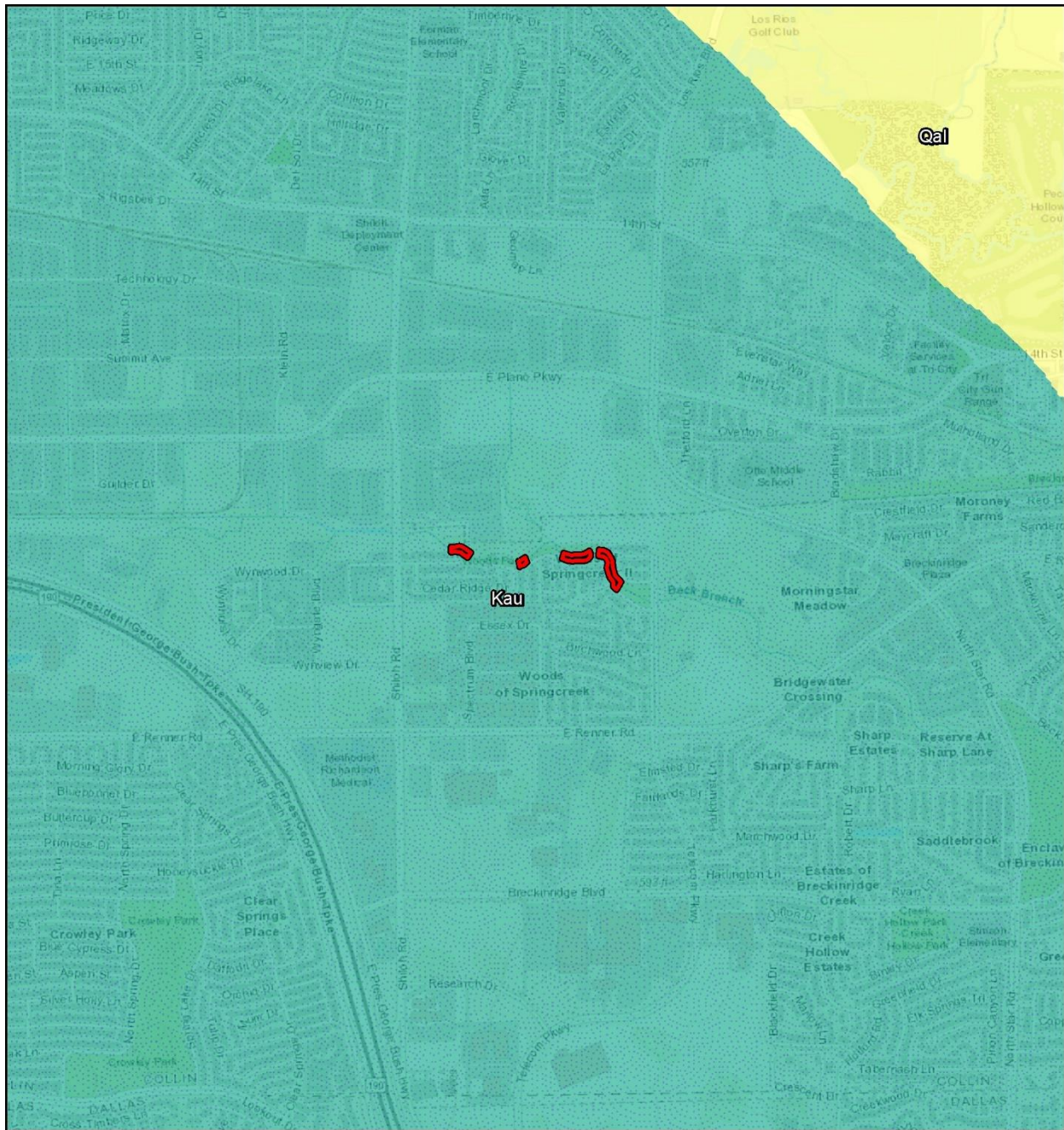
The Plano 7.5-minute USGS topographic quadrangle map illustrates that the APE is located along the channel of Beck Branch and the adjacent upland shoulder slopes (see **Figure 1.2**). The project area is in the upper reaches of the watershed, which generally flows in a west-to-east orientation through the APE. The stream has incised into the underlying bedrock along the entire course within the project area. The APE occupies an elevation range of 650 to 670 ft above mean sea level (amsl).

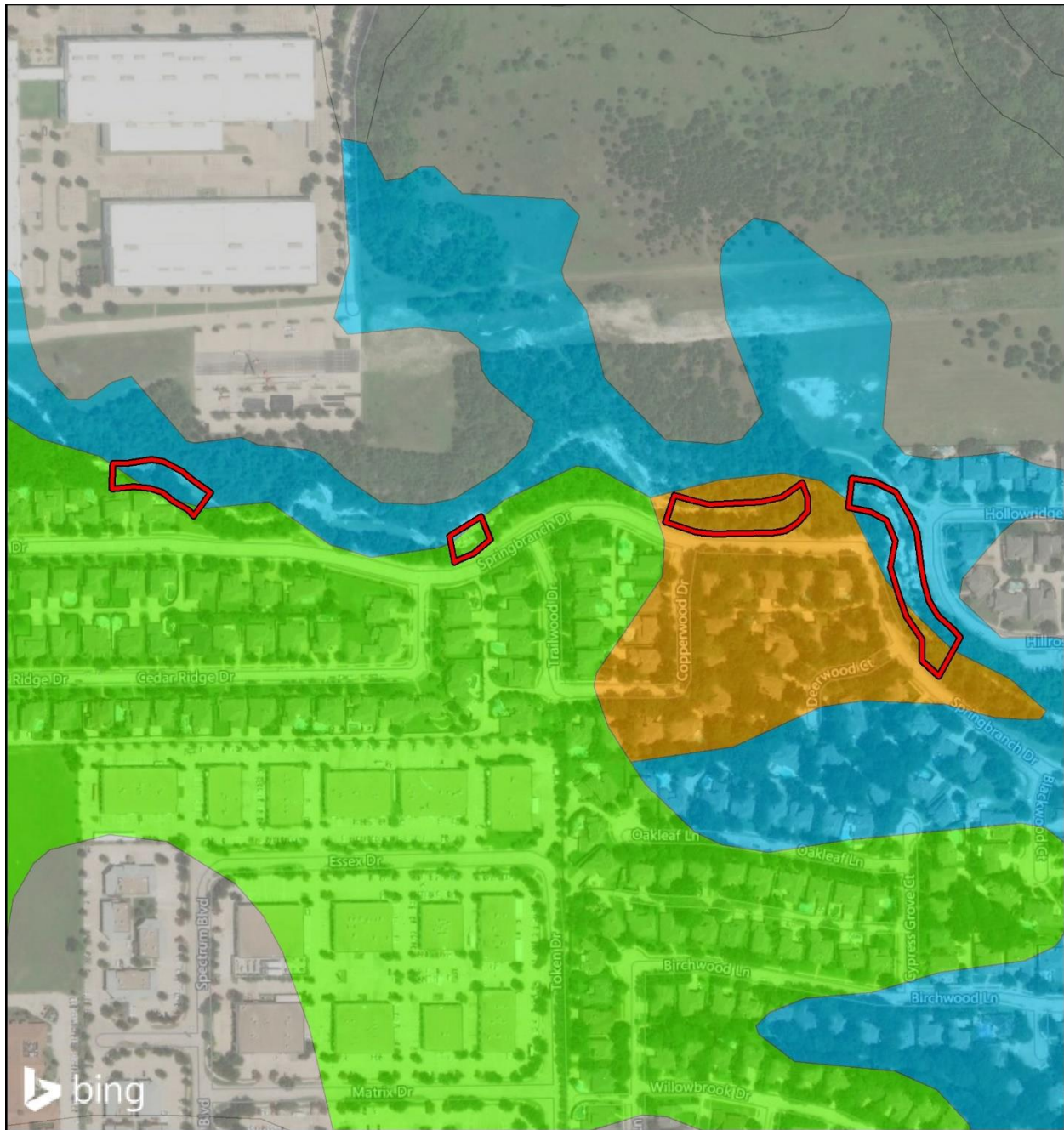
The project area is located within the Northern Blackland Prairie subregion of the Texas Blackland Prairie ecoregion (Griffith et al. 2007). The Northern Blackland Prairie is distinguished from surrounding regions by gently rolling hills and black, fine-textured soils and that primarily support prairie vegetation. Historical vegetation included little bluestem, big bluestem, yellow Indiangrass, and tall dropseed. Most of the prairie has been converted to cropland, non-native pasture, and expanding urban uses around the Dallas-Fort Worth metroplex. Vertisols dominate the Blackland Prairie ecoregion and consist of high clay content soils with significant shrink and swell potential. Soils within the APE are underlain by the Cretaceous-age Austin Chalk Formation (Kau), which is characterized by massive chalky limestone deposits with thin marl interbeds that has weathered upwards, forming the deep vertisols that mantle the Blackland Prairie region (McGowen et al. 1987; **Figure 2.1**).

As shown by the *Soil Survey of Collin County, Texas*, there are three soil map units within the APE (Hanson and Wheeler 1969; **Table 2.1**; **Figure 2.2**). The entire APE contains soils typical of *in situ* soil development and erosion within upland settings in the Northern Blackland Prairie region. Soil data was viewed from the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (Web Soil Survey 2019).

**Table 2.1:** Soils within the APE

Soil Map Unit Description	Approximate Percentage of the APE
<b>EdB - Eddy gravelly clay loam, 1 to 3 percent slopes</b> - This component is described as gravelly clay loam located on ridges. Depth to bedrock is 3 to 15 in. The natural drainage class is well drained.	10.2
<b>Edd2 - Eddy gravelly clay loam, 3 to 8 percent slopes, eroded</b> - This component is described as gravelly clay loam located on ridges. Depth to bedrock is 3 to 15 in. The natural drainage class is well drained.	50.4
<b>HoB - Houston Black clay, 1 to 3 percent slopes</b> - This component is described as clay located on ridges. Depth to bedrock is more than 80 in. The natural drainage class is moderately well drained.	39.4









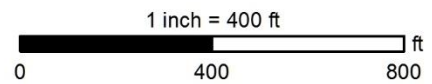
**Figure 2.2**  
Soil Map Units Located Within  
and Adjacent to the APE

County: Collin  
State: Texas  
Date map created: 6/24/2019  
Source: 2007 USDA  
NRCS Digital Soils Database  
IES Project Ref: 04.051.046

 Area of Potential Effects - Direct

**Soil Description**

-  HoB - Houston Black clay, 1 to 3 percent slopes
-  EdB - Eddy gravelly clay loam, 1 to 3 percent slopes
-  EdD2 - Eddy gravelly clay loam, 3 to 8 percent slopes, eroded
-  Other values outside of APE



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## CHAPTER 3: CULTURAL BACKGROUND

### 3.1 Previous Investigations

A file search within the Texas Archeological Sites Atlas (TASA), maintained by the THC, identified no National Register properties, historical markers, cemeteries, or previously recorded archeological sites located within the APE or within 1 mi of the APE (TASA 2019). According to TASA records, four cultural resources surveys have been previously conducted within 1 mi of the APE (**Table 3.1; Figure 3.1**).

**Table 3.1:** Previous Archeological Surveys within 1 Mile of the APE

Regulatory Agency	ACT Permit No.	Firm/Institution	Date	Survey Type	Location (Approximate)
Federal Highway Administration (FHWA)	No data	State Department of Highways and Public Transportation (SDHPT)	1982	Linear	0.75 mi northeast of the APE
City of Richardson	2176	AR Consultants, Inc. (ARC)	1999	Area	0.85 mi southeast of the APE
City of Frisco	7996	AmaTerra Environmental, Inc.	2017	Area	0.5 mi northwest of the APE
North Texas Municipal Water District (NTMWD)	8277	ARC	2018	Area	0.15 mi west of the APE

### 3.2 Cultural Resources Potential

In addition to the TASA review, several additional resources were referenced to determine the overall potential for encountering cultural resources within the APE. These resources included soil survey data (NRCS 2019; Hanson and Wheeler 1969), geologic data (McGowen et al. 1987), the Texas Department of Transportation (TxDOT) Potential Archeological Liability Map (PALM), the National Archives and Records Administration’s (NARA) 1940 Census Enumeration District Maps for Collin County, the Texas Historic Overlay (THO) georeferenced maps, and historic and modern aerial photography and satellite imagery.

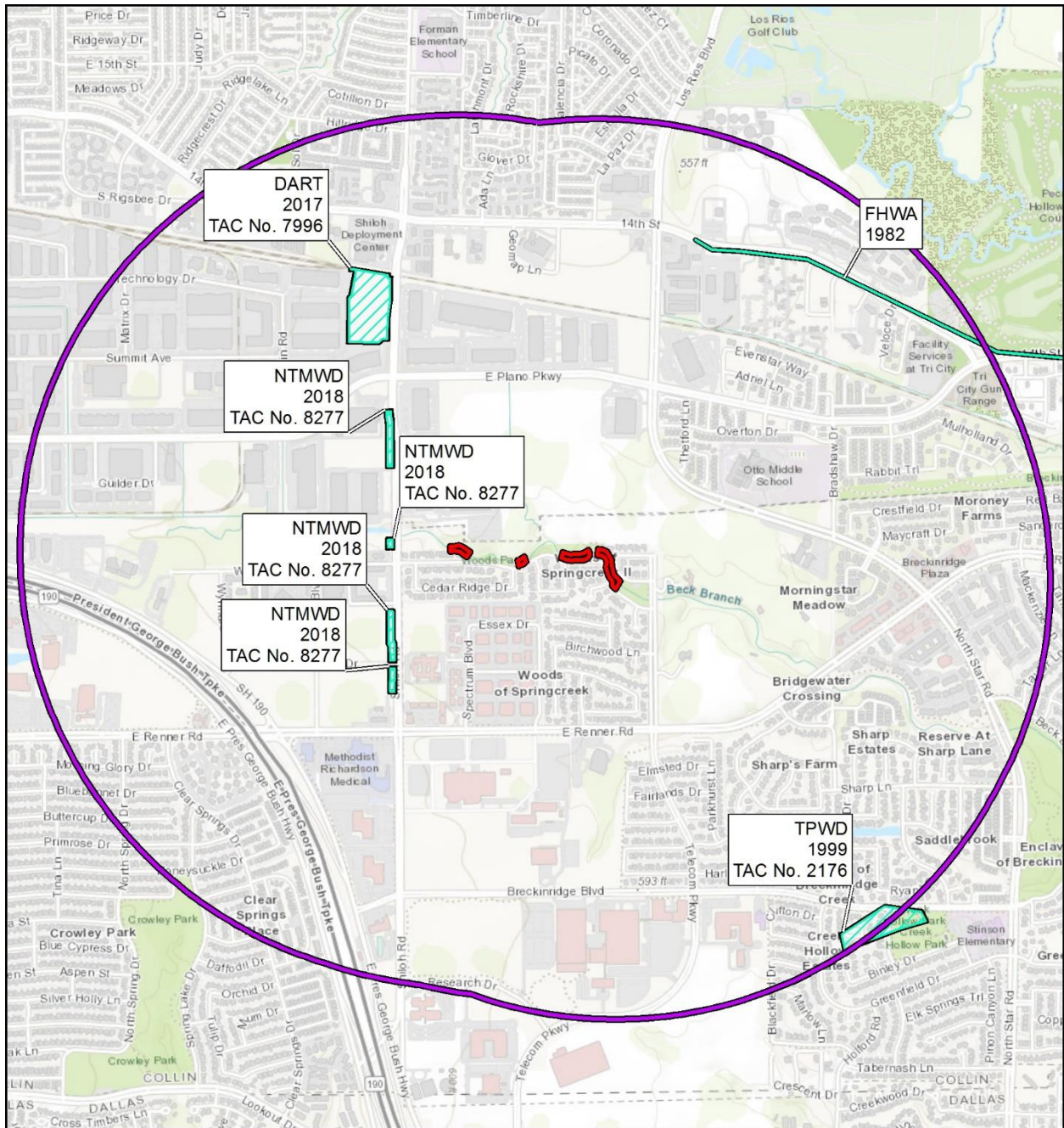
#### *3.2.1 Disturbance Analysis*

During the background review, it was ascertained that the APE is within a region historically used for agricultural and pastoral activities since 1941 and presumably since the late 19<sup>th</sup> or early 20<sup>th</sup> centuries. Historical aerial photographs indicate that the area along Beck Branch was subjected to widespread erosion by the mid-20<sup>th</sup> century, with only a small portion of the APE retaining a wooded riparian corridor at that time. Those conditions persisted until the mid-1990s, when residential development expanded into the vicinity. The adjacent housing developments, which include roadways that border Beck Branch, were constructed by the early 2000s. Beck Branch is a deeply-incised stream with shallow soil profiles in limited areas and extensive erosion and previous disturbances related to the adjacent residential subdivisions. Several existing stormwater outfall structures are located within the APE. Portions of the APE outside of the deeply-incised channel of Beck Branch comprise narrow easements, often displaying thin soil sola, steep slopes, or exposed regolith and bedrock.

#### *3.2.2 Direct APE*

##### *3.2.2.1 Prehistoric Archeological Resources Potential*

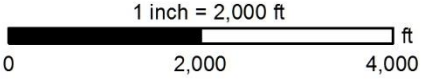
There are no previously recorded prehistoric archeological sites within the Beck Branch drainage. The closest previously-recorded prehistoric archeological sites are located approximately 2.8 to 4.5 mi southeast of the APE below the confluence of Beck Branch with Rowlett Creek, and 2.5 mi south of the APE along Spring Creek, a larger and higher-order tributary of Rowlett Creek. According to the TxDOT PALM for the Dallas District, most of the APE contains a moderate potential to contain shallow cultural materials and a moderate to high potential to contain deeply-buried cultural materials in reasonably well-



**Figure 3.1**  
**Previous Investigations Within**  
**1 Mile of the APE**

County: Collin  
 State: Texas  
 Date map created: 6/24/2019  
 Source: (c) 2009 Microsoft Corporation  
 and its data suppliers; ESRI 10.5  
 IES Project Ref: 04.051.046

- Area of Potential Effects - Direct
- Area of Potential Effects - 1-Mile Radius
- Previous Archeological Survey - Linear
- Previous Archeological Survey - Area



preserved contexts. Despite the recommendations of the TxDOT PALM, the APE is within a dissected upland area within *situ* soil development, extensive erosion, and is located nearly 1 mi away from soils that have developed within Quaternary-age alluvial sediments (Qal; see **Figure 2.1**).

### 3.2.2.2 Historic Period Resources Potential

Historic-period resources within North-Central Texas are primarily related to farmsteads, houses, and associated outbuildings and structures that date from the mid-19<sup>th</sup> to the mid-20<sup>th</sup> centuries. Typically, these types of resources are located along old roadways, but can also be located along railroads, streams, and open pastures. Although determining the presence of the earliest buildings and structures is problematic, maps depicting these features are available post-1930. Historic and modern aerial photography depict that the property parcels within and directly adjacent to the APE were primarily used for agricultural activities since at least 1930, and presumably since the late 19<sup>th</sup> century. No structures are indicated within the APE on any historical maps or aerial photographs reviewed during this assessment. As such, the potential to encounter historic period resources within the APE is assumed to be low.

### 3.2.3 Indirect APE Resource Potential

Historical and modern aerial photography illustrate there are no historic-aged standing buildings or structures within a 100-ft-wide buffer surrounding the direct APE. This assessment was verified during field survey.

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## CHAPTER 4: METHODS

Prior to fieldwork, IES staff conducted historical and archeological records reviews to determine previously recorded resources within the APE and within a 1-mi radius of the direct APE (see **Section 3.1**). IES staff also reviewed ecological, geological, and soils data, as well as historic and modern maps and aerial photography of the APE. The archeological survey of the Beck Branch Bank stabilization project was conducted on 21 May 2019. The methods utilized during this survey exceed the minimum archeological survey standards requirements for field investigations recommended by the CTA (CTA 2002), as approved by the THC.

### **4.1 Survey Methods**

#### *4.1.1 Pedestrian Survey*

The intensive pedestrian survey consisted of visual examination of the ground surface and existing subsurface exposures for evidence of archeological sites within the APE and consisted of a multiple transect scheme, which was implemented along the entire APE. Survey transects were oriented along each bank of Beck Branch. Areas displaying high levels of erosion, previous disturbance, or steeply-sloping terrain were photographed to document the lack of potential to preserve intact archeological deposits. Other documentation methods included narrative notes, maps, and shovel test records.

#### *4.1.2 Shovel Testing*

In areas with potential for archeological materials, shovel tests were excavated to 80 centimeters (cm) or the bottom of culturally sterile deposits, typically the calcic (Bk or Bkss) subsoil horizon or regolith (Cr) in this area. Each shovel test was at least 30 cm in diameter and was hand-excavated in levels not exceeding 20 cm in thickness. Excavated soil was screened using 0.25-in hardware cloth to facilitate the recovery of buried cultural material. If clay content was high and could not be efficiently screened, the excavated soil was troweled through by hand and inspected for cultural deposits. Additionally, the physical properties of each natural stratigraphic level were recorded. All test locations were recorded on paper and plotted using hand-held Global Positioning System (GPS) units. Investigators documented the results of each shovel test on standardized forms. Based on CTA guidelines, approximately 12 shovel tests were required to adequately assess the APE. However, the number of shovel tests varied based on the amount of disturbance, exposed bedrock or culturally sterile subsoil, ground visibility, and steep slopes present within the APE, or if archeological site(s) are encountered.

Standards for archeological methods typically require that measurements be recorded in metric units. For this reason, while general distances and engineering specifications are recorded and described in imperial units (e.g., in, ft, mi) within this report, archeological measurements and observations are listed in metric units (e.g., cm, m, km), unless historic-period artifact or architectural elements are more appropriately recorded in imperial units.

### **4.2 Curation**

No artifacts were encountered or collected during this survey. Project-related records, field notes, photographs, forms, and other documentation will be curated. All project records will be temporarily stored at the IES office and will be permanently curated at the CAR at UTSA upon completion of the project.

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## CHAPTER 5: RESULTS

During this survey, the APE was subjected to reconnaissance survey transects and a systematic intensive survey. Pedestrian reconnaissance was conducted across portions of the APE to confirm the extent of prior ground disturbances and assess the likelihood of encountering cultural resources. Ground surface visibility ranged from zero to 40 percent across the APE, based on localized ground conditions. Intensive survey with systematic shovel test sampling in staggered intervals was conducted within undisturbed portions of the APE with the potential to contain archeological resources within the shallow subsurface.

### **5.1 Archeological Survey**

#### *5.1.1 Pedestrian Survey*

Pedestrian survey verified the past ground disturbances outlined in **Chapter 3**. Beck Branch is a deeply-incised stream with shallow soil profiles in limited areas and extensive erosion and previous disturbances related to the adjacent residential subdivisions. Portions of the APE outside of the deeply-incised channel of Beck Branch comprise narrow easements, often displaying thin soil sola, steep slopes, or exposed regolith and bedrock. Several existing stormwater outfall structures are located within the APE. The westernmost section of the APE featured narrow terraces, steep slopes, and riparian forest with dense undergrowth (**Appendix A, Photographs 1 through 5**). East of this section is the smallest section of the APE, which contained shallow soils supporting short grasses, exposed bedrock, and heavily eroded banks (**Appendix A, Photographs 6 through 8**). The next section to the east consisted of riparian woods supported by clay loam soils in an upland setting along Springbranch Drive (**Appendix A, Photographs 9 through 14**). The easternmost APE portion featured eroded soils, exposed bedrock, steep embankments, and mixed vegetation consisting of open areas of short grasses and forested slopes near the stream (**Appendix A, Photographs 15 through 23**). Past disturbances observed within the APE included extensive erosion along Beck Branch, encroachment of suburban development, retaining walls along a recreational pedestrian and cycling trail, and stormwater outfalls (**Appendix A, Photographs 24 through 28**). The pedestrian survey also verified the absence of any historic-aged standing buildings or structures within the 100-ft-wide indirect APE buffer.

#### *5.1.2 Shovel Testing*

Shovel tests were conducted within portions of the direct APE with the potential to contain intact buried cultural deposits within the shallow subsurface. During the intensive survey, nine negative shovel tests were excavated within the APE. An additional three locations were recorded, but not excavated due to extensive soil erosion or steep slopes (**Figure 5.1**). Previously disturbed areas identified through background review were visually assessed and photographed during pedestrian transect survey.

Soils exposed within shovel tests generally revealed a profile that transitioned from very dark grayish brown (10YR 2/1 and 2/2) clay loam with small gravel inclusions to a medium grayish brown (10YR 3/2 and 4/1) clay loam or clay that contained larger gravel and chalky limestone or shale regolith. Shovel Test (ST) 11 contained visibly mottled soils of medium grayish brown (10YR 4/2) and reddish brown (10YR 4/4) clay with frequent gravel likely resulting from installation of an adjacent retaining wall and sidewalk. No cultural materials were encountered within shovel tests.

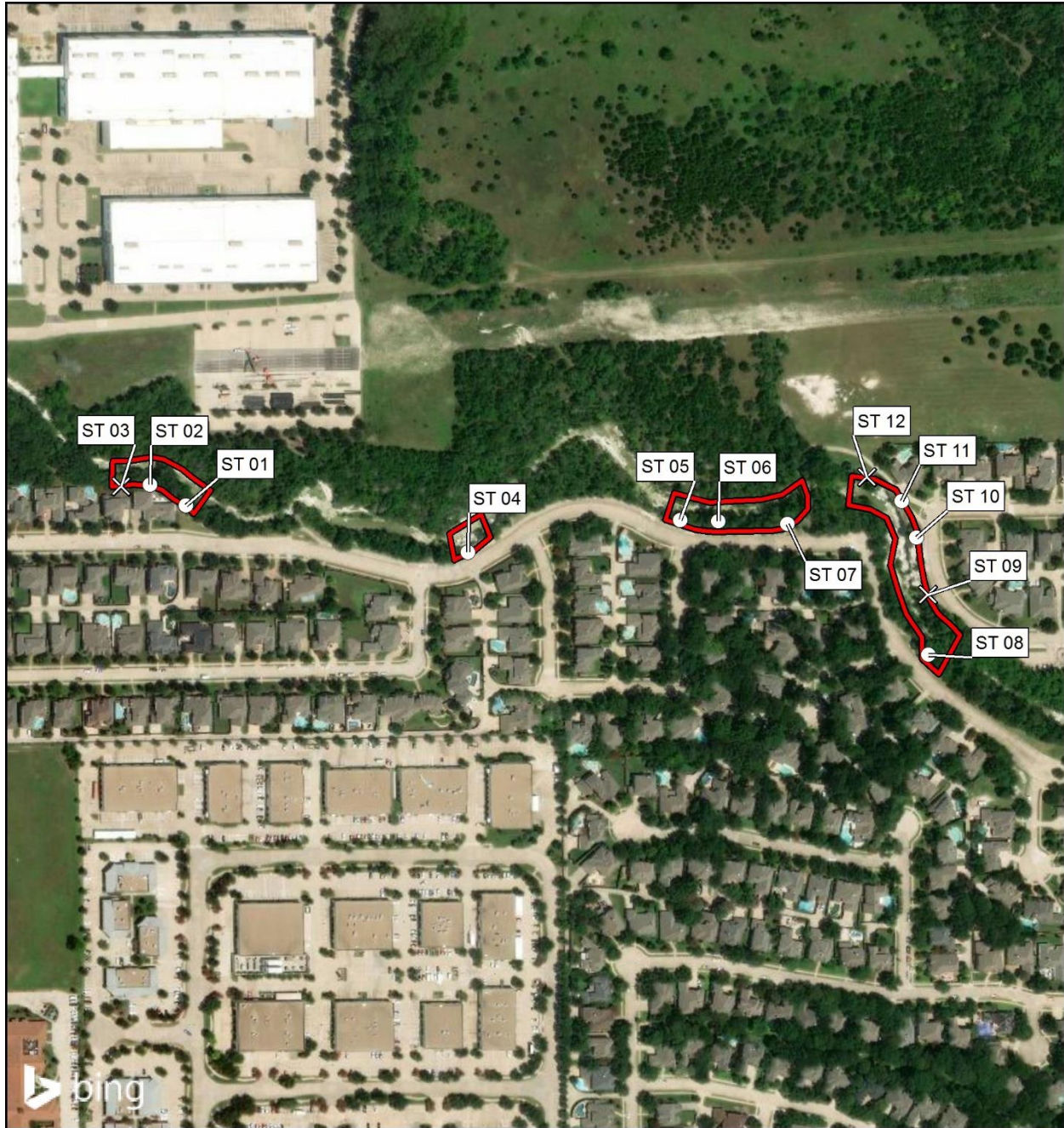
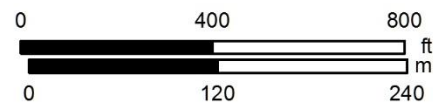


Figure 5.1  
Shovel Test Location Map

County: Collin  
 State: Texas  
 Date map created: 6/24/2019  
 Source: (c) 2019 Microsoft Corporation  
 and its data suppliers; ESRI 10.6  
 IES Project Ref: 04.051.046

- Area of Potential Effects - Direct
- Negative Shovel Test
- X Surface Inspection Location



## **CHAPTER 6: SUMMARY AND RECOMMENDATIONS**

During this cultural resources survey for the Beck Branch Bank stabilization project, the entire 1.9-ac APE was inspected through pedestrian reconnaissance and intensive survey. In total, nine shovel tests were excavated within the APE. All shovel tests were negative for artifacts or cultural deposits. No archeological sites were encountered during this survey.

Therefore, it is the recommendation of IES that the Beck Branch Bank stabilization project be permitted to continue without the need for further cultural resources investigations. However, if any cultural resources are encountered during construction, the operators should immediately stop construction activities in the area of the inadvertent discovery. The project cultural resources consultant should then be contacted to initiate further consultation with the THC and USACE prior to resuming construction activities. In addition, if project designs change, and areas outside the APE defined within this report are to be impacted, additional field investigations may be required.

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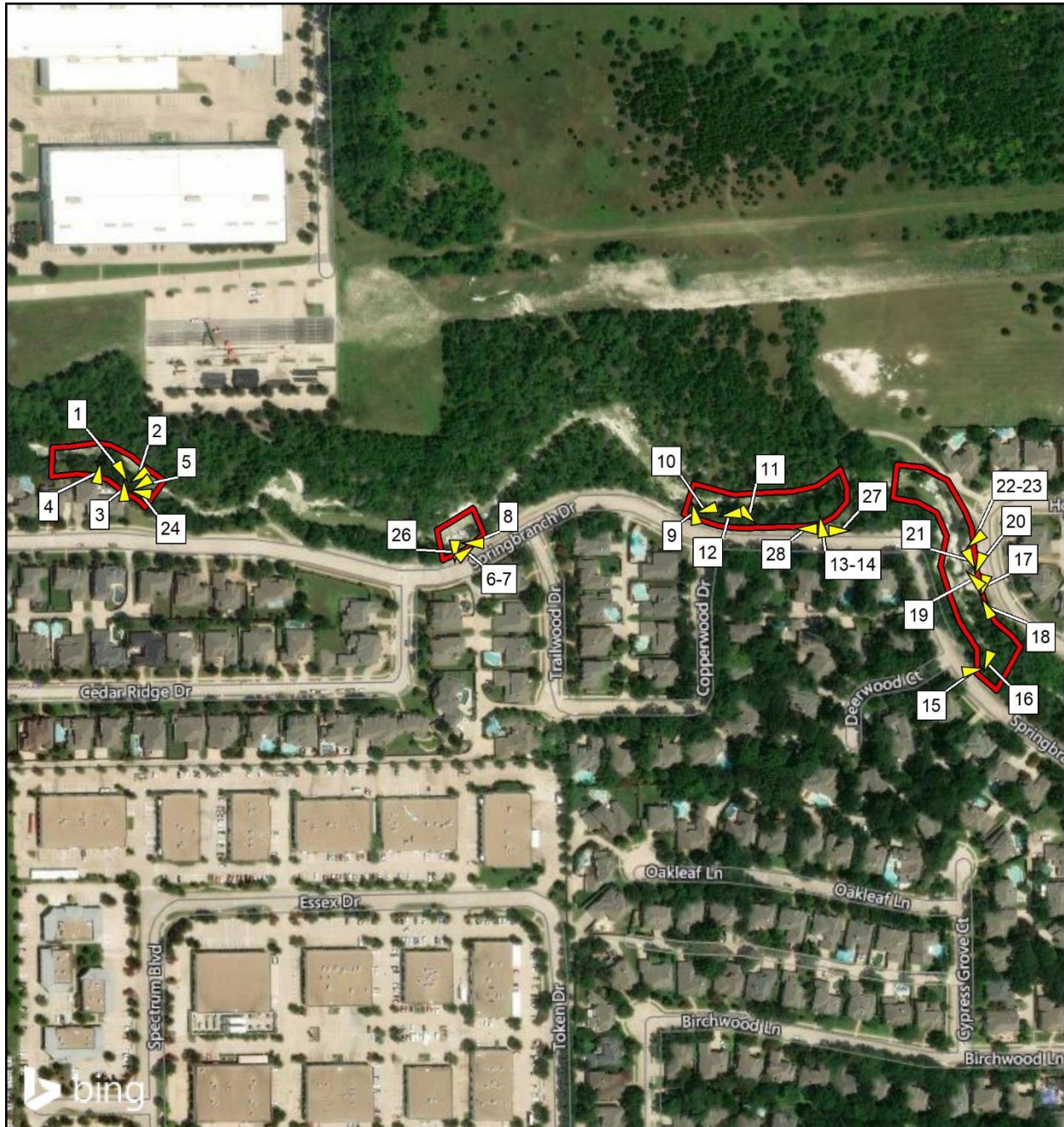
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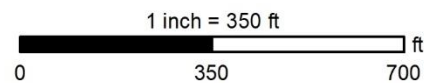
**APPENDIX A**  
**Photograph Location Map and Photographs**



Appendix A  
Photograph Location Map

County: Collin  
State: Texas  
Date map created: 5/29/2019  
Source: (c) 2009 Microsoft Corporation  
and its data suppliers; ESRI 10.5  
IES Project Ref: 04.051.046

- Area of Potential Effects
- ▲ Photograph Location





Photograph 1 - Overview of APE, view to the southeast.



Photograph 2 - Overview of APE, view to the west.



Photograph 3 - Overview of APE, view to the north.



Photograph 4 - Overview of APE, view to the north.



Photograph 5 - Screened soil from ST 01.



Photograph 6 - Overview of APE, view to the east.



Photograph 7 - Overview of APE, view to the east.



Photograph 8 - Excavation of ST 04, view to the west.



Photograph 9 – Overview of APE, view to the west.



Photograph 10 – Gravel and bedrock at ST 05.



Photograph 11 – Excavation of ST 06, view to the southeast.



Photograph 12 – Overview of APE, view to the west.



Photograph 13 – Overview of APE, view to the north.



Photograph 14 – Edge of APE along Springbranch Drive, view to the west.



Photograph 15 – Overview of APE, view to the east.



Photograph 16 - Overview of APE, view to the southwest.



Photograph 17 – Exposed bedrock, view to the south.



Photograph 18 - Overview of APE, view to the north.



Photograph 19 - Overview of APE, view to the northwest.



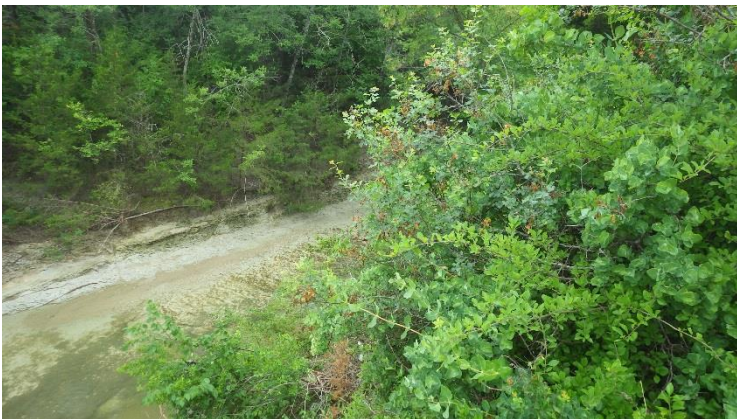
Photograph 20 - Overview of APE, view to the southwest



Photograph 21 - Overview of APE, view to the south.



Photograph 22 - Overview of APE, view to the southwest.



Photograph 23 – Overview of APE, view to the northwest.



Photograph 24 – Private property retaining wall and fence with attached outfall, view to the east.



Photograph 25 – Debris in channel from bank erosion, view to the southwest.



Photograph 26 – Neighborhood adjacent to APE, view to the south.



Photograph 27 – Pedestrian trail and Springbranch Drive, view to east.



Photograph 28 – Rock rip-rap retaining wall, view to the west.