CITATIONS

Historic Preservation

OMB No. 2506-0177
(exp.2/28/2025)

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those "Partners" (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

Historic Preservation (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/historic-preservation

Threshold

Is Section 106 review required for your project?

☐ No, because a Programmatic Agreement states that all activities included in this project are exempt. (See the PA Database to find applicable PAs.)
Either provide the PA itself or a link to it here. Mark the applicable exemptions or include the text here:
Click here to enter text.
→ *Continue to the Worksheet Summary.*

☐ No, because the project consists solely of activities included in a No Potential to Cause Effects memo or other determination [36 CFR 800.3(a)(1)].
Either provide the memo itself or a link to it here. Explain and justify the other determination here:
Click here to enter text.
→ *Continue to the Worksheet Summary.*

☒Yes, because the project includes activities with potential to cause effects (direct or indirect). → *Continue to Step 1.*

The Section 106 Process
After determining the need to do a Section 106 review, HUD or the RE will initiate consultation with regulatory and other interested parties, identify and evaluate historic properties, assess effects of the project on properties listed on or eligible for the National Register of Historic Places, and resolve any adverse effects through project design modifications or mitigation.
Step 1: Initiate consultation
Step 2: Identify and evaluate historic properties
Step 3: Assess effects of the project on historic properties
Step 4: Resolve any adverse effects

Only RE or HUD staff may initiate the Section 106 consultation process. Partner entities may gather information, including from SHPO records, identify and evaluate historic properties, and make initial assessments of effects of the project on properties listed in or eligible for the National Register of Historic Place. Partners should then provide their RE or HUD with all of their analysis and documentation so that they may initiate consultation.

Step 1 - Initiate Consultation

The following parties are entitled to participate in Section 106 reviews: Advisory Council on Historic Preservation; State Historic Preservation Officers (SHPOs); federally recognized Indian tribes/Tribal Historic Preservation Officers (THPOs); Native Hawaiian Organizations (NHOs); local governments; and project grantees. The general public and individuals and organizations with a demonstrated interest in a project may participate as consulting parties at the discretion of the RE or HUD official. Participation varies with the nature and scope of a project. Refer to HUD's website for guidance on consultation, including the required timeframes for response. Consultation should begin early to enable full consideration of preservation options.

Use the When To Consult With Tribes checklist within Notice CPD-12-006: Process for Tribal Consultation to determine if the RE or HUD should invite tribes to consult on a particular project. Use the Tribal Directory Assessment Tool (TDAT) to identify tribes that may have an interest in the area where the project is located. Note that only HUD or the RE may initiate consultation with Tribes. Partner entities may prepare a draft letter for the RE or HUD to use to initiate consultation with tribes but may not send the letter themselves.

List all organizations and individuals that you believe may have an interest in the project here:
Texas Historical Commission (THC) State Historic Preservation Officer (SHPO)
Williamson County Historical Commission
Apache Tribe of Oklahoma
Comanche Nation, Oklahoma
Coushatta Tribe of Louisiana
Delaware Nation, Oklahoma
Tonkawa Tribe of Indians of Oklahoma
Wichita and Affiliated Tribes (Wichita, Keechi, Waco & Tawakonie), Oklahoma

→ *Continue to Step 2.*

Step 2 - Identify and Evaluate Historic Properties

Provide a preliminary definition of the Area of Potential Effect (APE), either by entering the address(es) or providing a map depicting the APE. Attach an additional page if necessary.
An APE of 46 meters (150 feet) extending outward from the project boundary/ROW was determined. This APE captures all adjacent properties that could potentially experience direct or indirect impacts.

Gather information about known historic properties in the APE. Historic buildings, districts and archeological sites may have been identified in local, state, and national surveys and registers, local historic districts, municipal plans, town and county histories, and local history websites. If not already listed on the National Register of Historic Places, identified properties are then evaluated to see if they are eligible for the National Register. Refer to HUD's website for guidance on identifying and evaluating historic properties.

In the space below, list historic properties identified and evaluated in the APE.
Every historic property that may be affected by the project should be listed. For each historic property or district, include the National Register status, whether the SHPO has concurred with the finding, and whether information on the site is sensitive. Attach an additional page if necessary.

Historical resources (non-archeological) studies conducted for this project identified the following two historic-age (defined as 45 years or older) sites:

- Guadalupe Cemetery (ca. 1925)
- 401 FM 471, Georgetown Texas, 78626 (residential property) (ca. 1975)

Neither of these properties was determined as eligible for NRHP listing. On 07/12/24, TxDOT historians made a determination of "no historic properties present". TxDOT historians also determined project activities will not affect historic properties in compliance with the Section 106 Programmatic Agreement and have no potential for adverse effects in compliance with the Antiquities Code of Texas and the Memorandum of Understanding. Furthermore, TxDOT stated that individual project coordination with SHPO was not required. TxDOT will submit an audit copy of the findings and determination to SHPO.

Archeological studies conducted for this project identified the following four sites:

- Guadalupe Cemetery (Cemetery ID Number WM-C028/THC Atlas Number 7491002805)
- Archeological site 41WM991
- Archeological site 41WM1015
- Archeological site 41WM1549

None of the properties were determined as eligible for NRHP listing. THC concurred on 06/07/24.

Provide the documentation (survey forms, Register nominations, concurrence(s) and/or objection(s), notes, and photos) that justify your National Register Status determination.

Was a survey of historic buildings and/or archeological sites done as part of the project?

If the APE contains previously unsurveyed buildings or structures over 50 years old, or there is a likely presence of previously unsurveyed archeological sites, a survey may be necessary. For Archeological surveys, refer to HP Fact Sheet #6, Guidance on Archeological Investigations in HUD Projects.

☒ Yes → *Provide survey(s) and report(s) and continue to Step 3.*

Additional notes:

A historic resources (non-archeological) survey was conducted by Horizon Environmental Services (HES) on 12/05/23 to identify known and unknown historic-age resources within the APE and determine effects of the proposed project on these resources. No known historically significant resources were identified within the project boundaries or within 0.25 mile from the project area. Two historic-age resources on two properties were identified within the APE, and both were considered not eligible for listing in the NRHP. It was therefore recommended that the proposed project would have no effects on the historic-age resources recommended as not eligible for NRHP listing. No further investigations were recommended.

An archeological survey was conducted by HES on 04/10/24 due to the proximity of proposed project activities to adjacent Guadalupe Cemetery (Cemetery ID Number WM-C028) and for other identified areas of interest along the project corridor:

- Intensive archeological survey activities for an approximately 0.5-mile-long by 30-foot-wide segment of proposed ROW generally located between Prairie Springs Lane and Stone Mountain Road;
- Mechanical scraping and trenching along the northwestern and northeastern boundaries of Guadalupe Cemetery (total length of approximately 160 feet) that abut the project ROW; and

- Reevaluation of two previously recorded prehistoric sites, 41WM991 and 41WM1015, within the existing ROW of FM 971.

Based on the results of the survey-level investigations, no potentially significant archeological resources would be affected by the proposed undertaking in the surveyed portions of the project area; no archeological resources were identified within the project area that meet the criteria for designation as SALs according to 13 TAC 26 or for inclusion in the NRHP under 36 CFR 60.4. A finding of "no historic properties affected" was determined with no further investigations within the surveyed areas relating to the proposed project recommended.

☐ No → *Continue to Step 3.*

Step 3 - Assess Effects of the Project on Historic Properties

Only properties that are listed on or eligible for the National Register of Historic Places receive further consideration under Section 106. Assess the effect(s) of the project by applying the Criteria of Adverse Effect. (36 CFR 800.5) Consider direct and indirect effects as applicable as per HUD guidance.

Choose one of the findings below to recommend to the RE or HUD.
Please note: this is a recommendation only. It is **not** the official finding, which will be made by the RE or HUD, but only your suggestion as a Partner entity.

☒ No Historic Properties Affected

Document reason for finding:

☒ No historic properties present.

☐ Historic properties present, but project will have no effect upon them.

☐ No Adverse Effect

Document reason for finding and provide any comments below.

Comments may include recommendations for mitigation, monitoring, a plan for unanticipated discoveries, etc.

Click here to enter text.

☐ Adverse Effect

Document reason for finding:

Copy and paste applicable Criteria into text box with summary and justification.
Criteria of Adverse Effect: 36 CFR 800.5]

Click here to enter text.

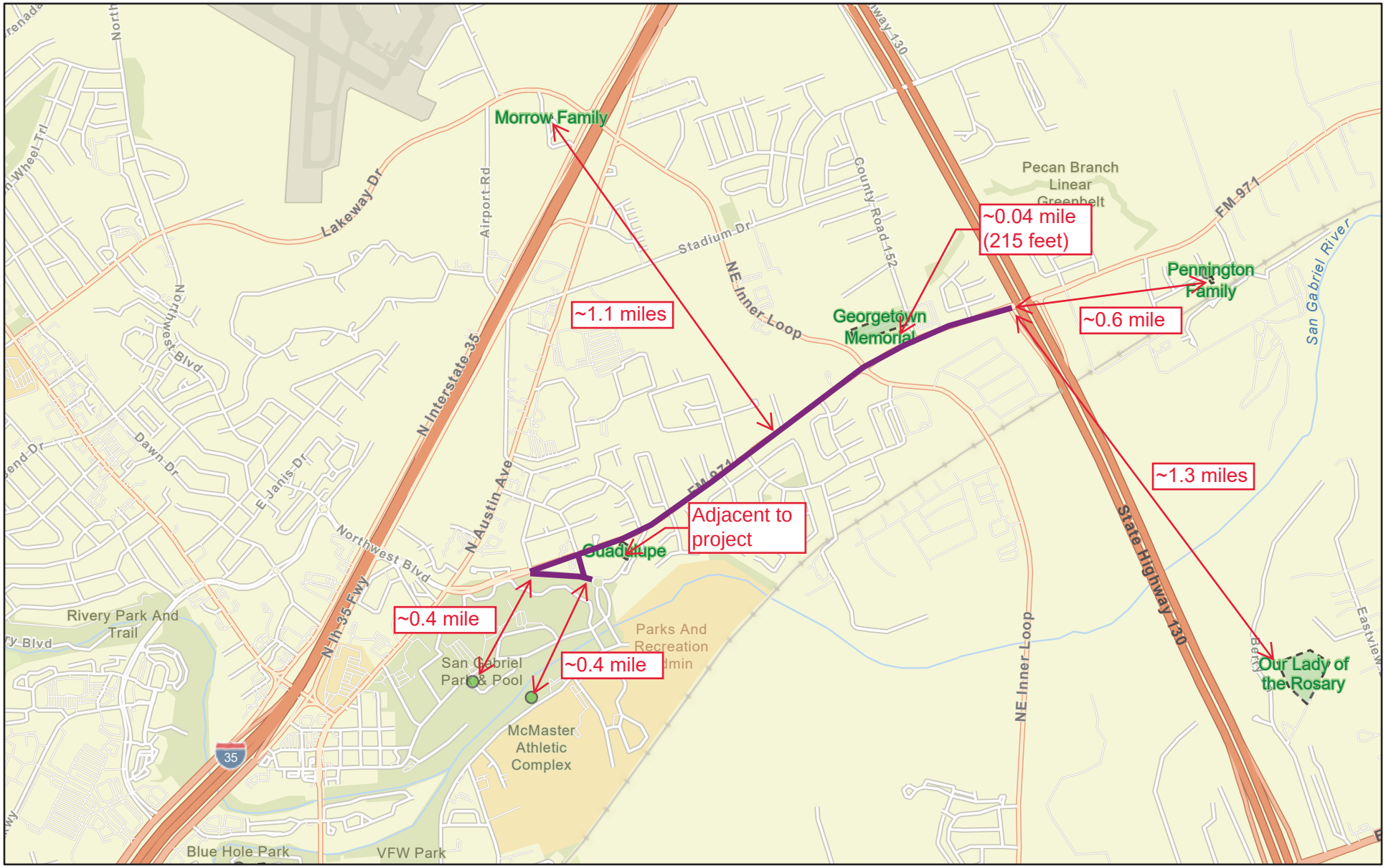
Provide any comments below:

Comments may include recommendations for avoidance, minimization, and/or mitigation.

Click here to enter text.

Remember to provide all documentation that justifies your National Register Status determination and recommendations along with this worksheet.

FM 971 Expansion Project - THC Atlas Map



2/3/2024

1:30,000

0 0.2 0.4 0.8 mi

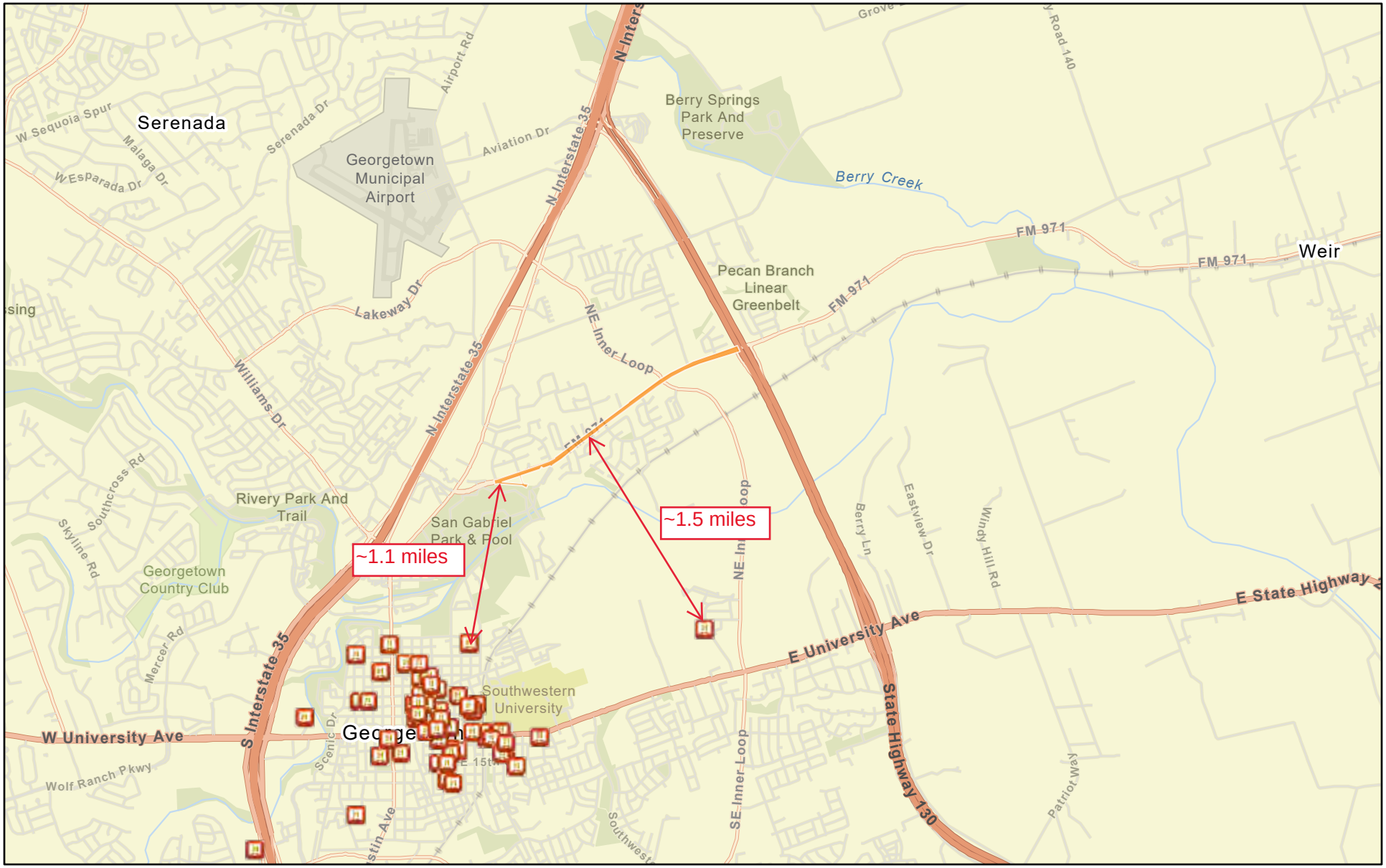
0 0.35 0.7 1.4 km

Cemeteries

Historical Marker

National Register Properties

FM 971 Expansion Project - NRHP Map



February 3, 2024

fm971_project_area

National Register of Historic Places

1:60,000

0 0.42 0.85 1.7 mi

0 0.5 1 2 km

Baylor University, County of Williamson, Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA,

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Assignment Details ★Activity Print this Page

Obtain Historical Studies Section 106/Antiquities Code of Texas(ACT) Approval

Determination of Effect: No historic properties affected

Comments:

HIST Finding: In compliance with the Section 106 PA, TxDOT historians determined project activities will not affect historic properties. In compliance with the Antiquities Code of Texas and the MOU, TxDOT historians determined project activities have no potential for adverse effects. Individual project coordination with SHPO is not required. No historic properties present. See <Approved_HIST IM 269001043 07-24.pdf> and <HIST WS 269001043_06-24.pdf> for details.

Site Map

Last Updated By: Mark Brown **Last Updated Date:** 07/12/2024 03:50:53

Historical Resources Survey Report

Windshield Survey

Project Name: FM 971 Improvements

Project Limits: Gann Street to SH 130

District(s): Austin

County(s): Williamson County

CSJ Number(s): 2690-01-043

Principal Investigator: Kathryn St. Clair

Report Completion Date: January 2024

This historical resources survey report is produced for the purposes of meeting requirements under Section 106 of the National Historic Preservation Act, the Antiquities Code of Texas, and other cultural resource legislation related to environmental clearance as applicable.

Abstract

The proposed roadway improvement project extends for a total of 1.67 miles along Weir Road (FM 971) from Gann Street to SH 130 in Williamson County. The project area is comprised primarily of residential development, with most communities on the south side of the road. San Gabriel Park is located adjacent to the west end of the project and there are two cemeteries adjacent to the project area: Guadalupe Cemetery and Georgetown Memorial Cemetery. Neither cemetery is considered historically significant or will be affected by the proposed project.

The existing facility consists of two 11-foot-wide lanes (one in each direction) with 3-foot-wide shoulders. The existing roadway is an at-grade facility for travel lanes and intersections, with roadside ditches and cross culverts of various sizes. The existing typical minimum width of ROW is approximately 75 feet, and maximum width of ROW is approximately 150 feet totaling 23 acres. The proposed facility will consist of four 11-foot-wide lanes (two in each direction) divided by a 14-foot-wide raised median, curb and gutter drainage with storm sewer and cross culverts, and a 10-foot-wide shared-use path on both sides of the facility. The proposed typical minimum width of ROW will be approximately 135 feet, and maximum width of ROW is approximately 150 feet, totaling 28 acres. The project will require 0.05 acres of additional ROW.

No known historically significant resources were identified within the project boundaries, or within 1,300 feet of the project area. As the majority of the project is along an existing alignment, the APE is defined as 150 feet beyond the existing ROW including entire parcel boundaries where a portion of the parcel falls within the defined APE. Overall, two historic-age resources (defined as 45-years or older) on two properties were identified within the APE, and all were considered not eligible for listing in the NRHP. It is therefore recommended that the proposed project would have no effects on the historic-age resources recommended as not eligible for listing in the NRHP.

Table of Contents

Project Identification

- **Report Completion Date:** 1/18/2024
- **Date(s) of Fieldwork:** December 5, 2023
- **Survey Type:** ☐ Desktop ☒ Windshield ☐ Reconnaissance ☐ Intensive
- **Report Version:** ☒ Draft ☐ Final
- **Regulatory Jurisdiction:** ☒ Federal ☐ State
- **TxDOT Contract Number:** n/a
- **District or Districts:** Austin
- **County or Counties:** Williamson
- **Highway or Facility:** FM 971
- **Project Limits:**
    - **From:** Gann Street
    - **To:** SH 130
- **Main CSJ Number** 2690-01-043
- **Report Author(s):** Kathryn St. Clair
- **Principal Investigator:** Kathryn St. Clair
- **List of Preparers:** Kathryn St. Clair

Area of Potential Effects (APE)

☐ Existing ROW

☒ 150’ from Proposed ROW and Easements

☐ 300’ from Proposed ROW and Easements

☐ Custom: <0'> from Proposed ROW and Easements

As the proposed roadway improvements follow the exisiting alignment of FM 971 from Gann Street to SH 130, the APE is defined as 150’ beyond the proposed permanent ROW within project limits.

- **Historic-Age Survey Cut-Off Date:** 1979
- **Study Area** 1300 feet from edge of the Area of Potential Effects

Section 106 Consulting Parties/Stakeholders

- **Public Involvement Outreach Efforts:**

A public meeting (open house) was held on August 3, 2023, at Georgetown City Hall, 808 Martin Luther King Jr. Street, Georgetown, Texas. The meeting was held to discuss the features of the proposed project. No further public involvement activities are proposed at this time.

- **Identification of Section 106 Consulting Parties:**

Texas Historical Commission
Justin Kockritz
P.O. Box 12279
Austin, Texas 78701

Eloise Brackenridge, Chair
Williamson County Historical Commission
710 S Main Street
2nd Floor
Georgetown, TX 78626
wilcohc@wilcohistory.org

- **Section 106 Review Efforts:**

LJA Environmental Services, Inc. (LJA) contacted the Williamson County Historical Commission (CHC) on December 21, 2023. The CHC has not responded. The THC has not been contacted to date, however, LJA consulted the THC Historical Sites Atlas and the THC's Survey Report Inventory. It is anticipated that the THC will be consulted during the review process of this survey report.

- **Summary of Consulting Parties Comments:**

No comments have been received.

Project Setting/Study Area

- **Historic-age Bridges in APE**

N/A

- **Previously Evaluated Historic Resources**

There are no previoulsy evaluated historic resources within the APE. There are no resources within the APE that were included in the *2016 City of Georgetown Historic Resources Survey,* which included a compreshensive survey of all resources constructed prior to 1974 within the Georgetown city limits (CMEC: 2016). Within the survey, a property located at 903 Riverhaven Drive (within the APE) had a 1965-constructed building on it and was recommended as a medium priority of preservation. However, the building has since been demolished and the property is currently an empty lot.

- **Previously Designated Historic Properties**

There are no National Historic Landmarks (NHL), National Register of Historic Places (NRHP) listed resources, State Antiquities Landmarks (SAL), Recorded Texas Historical Landmarks (RTHL), or Official Texas Historical Markers (OTHM) within 0.25 miles of the proposed project limits. Two cemeteries, the Guadalupe and the Georgetown Memorial, are located within the study area.

TxDOT NRHP Properties and Districts – There are no NRHP listed or eligible properties, districts, or bridges within 0.25 miles of the proposed project limits.

- **Previously Designated Historic Districts**

There are no NRHP listed or eligible districts, or bridges within 0.25 miles of the proposed project limits.

- Historic Land Use

According to historical aerial photographs, the study area was largely rural with residential houses, barns and other outbuildings on large lots. The 1925 U.S. Topographic map indicates the presence of North Austin Avenue (just west of the project area) with Weir Road (FM 971) extending east through the project area. The Guadalupe Cemetery is not indicated on any topographic maps; however, it is estimated that it dates from ca.1925 (the earliest marked grave is 1926). San Gabriel Park was established in the early 1980s in the floodplain of the San Gabriel River.

- Current Land Use and Environment

The project area is predominately infilled with newly constructed residential neighborhoods, schools, and a large church. Some of the rural agricultural properties remain along the north side of FM 971. The San Gabriel Park remains a dominant feature south of FM 971 within the study area. The park is a popular sports and recreational area focused on the San Gabriel River.

- Historic Period(s) and Property Types

The historic-age resources within the APE date from c.1925 (the Guadalupe Cemetery) through 1979, thus suggesting the period of significance (POS) is defined as 1925-1979. The property types within this period and within the APE include a ca. 1975 Ranch style house and the aforementioned cemetery.

- Integrity of Historic Setting

The integrity of the setting is compromised with the numerous rescently-constructed subdivisions and residential development on former farmland. Some agricultural fields remain in the project area, though there are few historic-age agricultural buildings remaining. The ca. 1925 cemetery is not surrounded by residential properties or a community dating from a similar construction period. No areas are clustered or cohesive groupings of resources were identified that may constitute a historic distict, or remains of a historic community.

Survey Methods

- Methodological Description

A windshield survey level of effort was conducted to identify known and unknown historic-age resources within the APE and determine effects of the proposed project on these resources. The proposed project involves roadway improvements along an existing alignment of FM 971, therefore, required ROW is generally minimal from properties adjacent to the current ROW, minimizing potential effects.

In accordance with TxDOT's Environmental Affairs Division's (ENV) Documentation Standard for Preparing an Historic Resources Report, LJA Environmental Services, LLC (LJA) surveyed and documented all historic-age resources constructed prior to 1979 on parcels within or partially within the APE. Prior to the field survey, a preliminary review of secondary source material, including current and historic aerial photography, highway maps, topographic maps, and the Williamson County Central Appraisal District data, was conducted. The field survey confirmed the document review that there is one residential property of historic-age (ca.1975), and the Guadalupe Cemetery (dating from ca. 1925) that fall within the APE along the existing ROW.

LJA utilized current and historic aerial imagery to aid in the survey and evaluation of the larger historic-age resources that cannot be viewed from public ROW. Per TxDOT guidance, LJA took at least two photographs of both historic-age resources, as accessible from the public ROW.

- Comments on Methods

None

Literature Review

LJA's historian reviewed the THC's *Texas Historic Sites Atlas* and TxDOT's Google Earth layer *Historic Sites Aggregator* to identify the previously documented historic resources listed on the NRHP, designated as NHLs, RTHLs, standing structure SALs, or OTHMs within the APE and the 1,300-foot study area. LJA researched the *Texas Freedom Colonies Project* online atlas to identify Freedom colonies previously documented in the study area. LJA researched the Texas Department of Agriculture's website to identify any designated Family Land Heritage Farms that may be in the study area. No previously identified Freedom Colonies are within the study area. In addition, no family land heritage farms are within the study area. LJA also researched the *Historic Resources Survey* that was prepared for the City of Georgetown to identify any previously recorded historic resources within the project area (CMEC: 2016). The Williamson County Historical Commission's website was reviewed to identify any previous surveys that may include the project area.

LJA explored available historic aerial imagery (1967-2022), topographic maps (1925-2019), and Williamson County General Highway Maps (1940, 1961) to gain an understanding of the developmental history of the area, and to estimate building

construction dates (TSLAC: 2023). LJA also reviewed information found on the Texas Historical Association's *Handbook of Texas Online* regarding the communities in the project area and the history of City of Georgetown. Historical Association's *Handbook of Texas Online* regarding the communities in the project area and the history of City of Georgetown. Additional literature reviewed includes:

Publications and Reports: The *1984 Historic Resource Survey of Georgetown*, by Hardy Heck & Moore (HHM) and the *2010 Final Report: Historic Resources Survey, City of Georgetown* was reviewed (HHM: 1984). The book*, Georgetown, Then and Now*, was also reviewed (Scarborough: 2014).

Williamson County Central Appraisal District: the property data for each parcel within the APE was reviewed to determine ownership and potential construction dates of resources (WCAD: 2023).

Online Sources: THC's Historic Sites Atlas website was reviewed.

Historical Context Statement

The POS is currently defined as 1925-1979, which is the period when the existing historic-age resources were constructed and includes the period when the cemetery was established. The project area is located within the outskirts of downtown Georgetown, the county seat of Williamson County, and FM 971 (Weir Road) runs roughly parallel to the former Missouri, Kansas and Texas (M.K.T) Railroad line, which is just south of the project area. The San Gabriel River also runs roughly parallel (and south) of FM 971. Historically, FM 971 led from North Austin Avenue (which connected Austin to Georgetown) to the small community of Weir (thus the name Weir Road). Small farms and ranches branched off the corridor, likely taking advantage of the tributaries and creeks fed by the San Gabriel River, and the fertile Blackland Prairie soil. Many German, Swiss, Czech and Swedish settlers arrived in second half of the 19th century and established farms in the area. The arrival of the railroad in 1878 propelled Georgetown into a thriving community surrounded by farms and ranches. Employment opportunities drew migration from Mexico, and Hispanic and Mexican communities populated primarily the rural areas around the growing town. Cotton, which was a more lucrative product than corn and wheat, production became dominant in the area from the 1880s to the 1920s, after which crop diversification was practiced. The Georgetown and Granger Railroad was completed, which connected the city to the International and Great Northern Railroad in Round Rock. (Scarborough: 2010). With improved access to transportation, Georgetown farmers were able to buy farm machinery and ship crops to larger markets. Soon, cotton gins and processing plants sprang up throughout the county, including Georgetown, and Williamson County was the top cotton producer in Texas by the 1890s (CMEC: 2016). In tandem with the cotton industry, the cattle raising also dominated the economy and the

grasslands in the rural areas around Georgetown proved ideal for ranching. A primary cattle trail traversed through the city and connected to the cattle superhighways known as the Western, Chisholm, Dodge City and Shawnee trails. One of the trail arteries followed North Austin Avenue, which is just west of Gann Street at the western terminus. Population growth spurred a building boom in the city center. As Georgetown grew, many farms that were once on the outskirts of town became enveloped by development and were often destroyed (CMEC: 2016).

In 1921, a catastrophic flood eventually led to the city damming the river and creating Lake Georgetown. Agriculture and ranching supported the economy through the 1930s, during the time the Guadalupe Cemetery was established. The project area is primarily within a former rural agricultural area, and largely supported by an immigrant workforce or laborers from Mexico. Georgetown's economy picked back up again in the years following World War II. The county was still heavily agricultural; however, cotton farming was declining as a result of over-production, soil depletion, and a boll weevil infestation (Odintz 2016). Agricultural interests diversified as farmers began growing sorghum and wheat and raising poultry. The city of Georgetown also grew in size in the post-war years, as subdivisions were added, featuring modern planning principles with wide streets, uniform setbacks, separation of residential and non-residential uses, and consistent architectural design. Single-family residences were typically built in the Ranch style and advertised as having the latest in modern conveniences and design (HHM: 2010). When I-35 was constructed in 1965, much of Georgetown was bypassed and Austin Avenue was no longer the north to south primary arterial roadway. Development activity quickly shifted toward the interchanges of the new highway and away from Austin Avenue. Residential, commercial, and industrial growth continued at a rapid pace after 1960 and into the 1970s and 1980s (Scarborough: 2010). After the dam was completed in 1979, developers set their sights on surrounding ranchland for new subdivisions. Since that time, the rural area was infilled with residential subdivisions, schools, a church and some commercial buildings. Currently, the project area is predominately characterized by some remaining rural residential parcels north of FM 971 (Ranch-style, mid-20th century houses), San Gabriel Park south of the roadway, and newly constructed residential suburbs.

National Register Eligibility Recommendations

- Eligible Properties/Districts

None

- Ineligible Properties/Districts

- 401 FM 471, Georgetown Texas, 78626

  The ca. 1975 Ranch style house was not readily accessible or visible from the public ROW, so information and evaluation is based off of aerial photographs, historical maps and historical aerial maps. The house does not appear to be a particularly unique architectural style.

- Guadalupe Cemetery, 725 E Morrow St, Georgetown, TX 78626

  The cemetery is recorded as WM-C028 in the THC Atlas database. The cemetery dates from ca. 1925 and is not an integral part of a larger property or resource that is associated and historically significant. The Guadalupe Cemetery is not known to be the burial place of a person of outstanding importance, or have distinctive design features, or is associated with historic events. The markers do not possess artistic and architectural significance, and the cemetery is not within the setting of an associated church or religious setting. Therefore, it does not meet the NRHP Criteria Consideration A (a religious property is eligible if it derives its primary significance from architectural or artistic distinction or historical importance), C (birthplace or grave of a historical figure is eligible if the person is of outstanding importance and if there is no other appropriate site or building directly associated with his or her productive life, or D (a cemetery is eligible if it derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or F (a property primarily commemorative in intent can be eligible if design, age, tradition, or symbolic value has invested it with its own historical significance.

- **Recommendations for Further Study**

None

Determination of Section 106 Effects Recommendations

- **Direct Effects**

None

- **Indirect, Cumulative or Reasonable Foreseeable Effects**

None

U.S. DOT Section 4(f) Applicability Statement

Project activities will not constitute a use of historic property as defined by 23 CFR 774, including Section 4(f) Exceptions or De Minimis uses. The project activities would therefore not trigger a Section 4(f) evaluation.

References Cited

Cox McLain Environmental Consulting (CMEC)

2016 *Historic Resources Survey, City of Georgetown, Texas Report.* City of Georgetown. <https://historic.georgetown.org/introduction/historic-resource-survey/>. Accessed November 7, 2023.

Google Earth

2023 Williamson County. <http://www.googleearth.com>. Accessed October 2, 2023.

Hardy Heck & Moore (HHM)

2010 *Historic Resource Survey of Georgetown, Texas; 2010 Final Report: Historic Resources Survey, City of Georgetown*, Texas. Austin, Texas.

National Environmental Title Research (NETR)

2023 Historic Aerials by NETR Online. <http://www.historicaerials.com>. Accessed October 28, 2023.

Odintz, Mark

2016 Williamson County. Handbook of Texas Online. Electronic document, <http://www.tshaonline.org/handbook/online/articles/hcw11>. Accessed November 16, 2023.

Portal to Texas History

2023 *General Highway Map of Dallas County, Texas, 1961.* Texas Highway Department. University of North Texas Libraries, The Portal to Texas History. <https://texashistory.unt.edu/ark:/67531/metapth187691/>. Accessed October 22, 2023.

Scarborough, Clara Stearns

2010 *Handbook of Texas Online.* Georgetown, TX (Williamson County). Electronic document. <http://www.tshaonline.org/handbook/online/articles/hfg03>. Accessed November 15, 2023.

Texas Department of Agriculture

2023 The Family Land Heritage Program. Texas Department of Agriculture. <https://www.texasagriculture.gov/NewsEvents/FamilyLandHeritage.aspx>. Accessed on October 11, 2023

Texas Department of Transportation (TxDOT)

2023 Historic Resources Aggregator. <https://www.arcgis.com/home/webmap/viewer.html?webmap=e55a0c5725644e5badef578db02bee9f&extent=-109.4371,25.5608,-86.8053,37.2641>. Accessed October 28, 2023.

Texas Freedom Colonies Project

2023 *Texas Freedom Colonies Atlas.* Texas Freedom Colonies Project. <https://www.thetexasfreedomcoloniesproject.com/atlas>. Accessed October 31, 2023.

Texas Historical Commission (THC)

2023 Texas Historic Sites Atlas. Texas Historical Commission. <https://atlas.thc.state.tx.us>. Accessed April 1, 2023.

Texas State Library and Archives Commission (TSLAC)

2023 *Williamson County General Highway Map, 1940*. Texas State Archives Map. <https://www.tsl.texas.gov/apps/arc/maps/maplookup/05027>. Accessed November 1, 2023.

Williamson County Central Appraisal District (WCAD)

2023 *Williamson County Property Map.* Williamson County, Texas Central Appraisal District. <https://search.wcad.org/>. Accessed October 28, 2023.

Appendix A: Project Information and ROW Information

[see Documentation Standard for Historic Resources Survey Report]

Finalize Back To List

- WPD Section I - Project Definition
- WPD Section II - Tool
- WPD Section III - Project Work Plan
- WPD Section IV - Findings

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Project Definition

Project Name: FM 971 (Gann St to SH 130)

CSJ: 2690 - 01 - 043

Anticipated Environmental Classification: CE

Type: (D)-List

Criterion: Open-Ended D

Is this an FHWA project that normally requires an EIS per 23 CFR 771.115(a)?

Project Association(s)

Auto Associate CSJ from DCIS

Manually Associate CSJ:

Add

CSJ	DCIS Funding	DCIS Number	Env Classification	DCIS Classification	Main or Associate	Doc Tracked In	Actions

There are currently no Project Associations added to this project.

DCIS Project Funding and Location

Funding

DCIS Funding Type:

☐ Federal ☐ State ☑ Local ☐ Private

Location

DCIS Project Number: CC 2690-1-43

Highway: FM 971

District: AUSTIN

County: WILLIAMSON

Project Limit -- From: GANN ST

Project Limit -- To: SH 130

Begin Latitude: + 30 . 6550121

Begin Longitude: - 97 . 6676343

End Latitude: + 30 . 6666756

End Longitude: - 97 . 6426085

DCIS & P6 Letting Dates

DCIS District: 03/24

DCIS Approved:

DCIS Actual:

P6 Ready To Let:

P6 Proposed Letting:

DCIS Project Description

Type of Work: Spell

Layman's Description:

ENGINEERING DESIGN/STUDY

DCIS Project Classification: PE - PRELIMINARY ENGINEERING

Design Standard:

Roadway Functional Classification: 5 - Rural major collector or urban collector street

Jurisdiction

No — Does the project cross a state boundary, or require a new Presidential Permit or modification of an existing Presidential Permit?

Who is the lead agency responsible for the approval of the entire project?

☑ FHWA - Assigned to TxDOT ☐ TxDOT - No Federal Funding ☐ FHWA - Not Assigned to TxDOT

Local Government — Who is the project sponsor as defined by 43 TAC 2.7?

Yes — Is a local government's or a private developer's own staff or consultant preparing the CE documentation, EA or EIS?

Yes — Does the project require any federal permit, license, or approval?

☑ USACE ☐ IBWC ☐ USCG ☐ NPS ☐ IAJR ☐ Other

No — Does the project occur, in part or in total, on federal or tribal lands?

Environmental Clearance Project Description

Project Area

Typical Depth of Impacts: 2 (Feet) Maximum Depth of Impacts: 5 (Feet)

New ROW Required: 5 (Acres)

New Perm. Easement Required: 0 (Acres) New Temp. Easement Required: 0 (Acres)

Project Description

Describe Limits of All Activities: Spell

The project will be in a primarily suburban area from Gann Street to SH 130 approx 1.67 miles.

Describe Project Setting: Spell

The proposed project occurs within a suburban area within the city limits of Georgetown in Williamson County, TX. The project area begins at the intersection of Weir Rd. and Gann St. and extends approximately 1.67 miles east to SH130. The general vegetation composition throughout the project area consists of urban low intensity or urban high intensity. Mostly mowed and maintained vegetation with isolated shrubbery and trees.

Adjacent land use consists mostly of residential development, particularly on the south side of the roadway. There are a few large, undeveloped parcels adjacent to the roadway as well, mostly on the northern side of FM 973. San Gabriel Park is located adjacent to the west end of the project.

There are two cemeteries adjacent to the project area: Guadalupe Cemetery and Georgetown Memorial Cemetery. Neither cemetery is anticipated to be impacted by the project.

Describe Existing Facility: Spell

The existing facility consist of two 11-foot lanes (one in each direction) with 3-foot shoulders. The existing roadway is an at-grade facility for travel lanes and intersections, with roadside ditches and cross culverts of various sizes. The existing typical minimum width of ROW is approximately 75 feet, and maximum width of ROW is approximately 150 feet totaling 23 acres.

Describe Proposed Facility: Spell

The proposed facility would consist of four 11-foot lanes (two in each direction) divided by a 14-foot raised median, curb and gutter drainage with storm sewer and cross culverts, and a 10-foot shared-use path on both sides of the facility. The proposed typical minimum width of ROW will be approximately 135 feet, and maximum width of ROW is approximately 150 feet, totaling 28 acres.

Yes Would the project add capacity?

Transportation Planning

Yes Is the project within an MPO's boundaries?

No Does the project meet the definition for a grouped category for planning and programming purposes?

The project is located in Attainment/Unclassified area.

This status applies to:

- CO - Carbon Monoxide
- O3 - Ozone
- NO2 - Nitrogen Dioxide
- PM10 - Particulate
- PM2.5 - Particulate

Environmental Clearance Information

Environmental Clearance Date:

Environmental LOA Date:

Closed Date:

Archived Date:

Approved Environmental Classification: CE

Type: (D)-List

Criterion: Open-I

Project Contacts

Created By: Travis Brice

Date Created: 07/07/2023

Project Sponsor: TXDOT (Or) Local Government

Sponsor Point Of Contact: Amy Brook-X - Environmental Consultant

Delegate Point Of Contact: Travis Brice - Environmental Specialist

Other Point of Contact(s): Spell

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Nathaniel Waggoner, City of Georgetown
Masoud Moradian, GTAO
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Last Updated By: Troy Olney

Last Updated Date: 08/15/2023 12:53:45

Appendix B: Tabular Inventory of Surveyed Properties

[see Documentation Standard for Historic Resources Survey Reports]

Resource No.	Address/ Location	Function/ Sub-function	Architectural Style	Date(s)	Integrity/Comments	NRHP Eligibility
1A	PIN: R039616 401 FM 971 Georgetown, Texas	Residential/house	Ranch	ca. 1975	The house is overall rectangular in footprint with an end-gabled roof. The one-story house has a rear intersecting gable wing extending from the northeast end. The house exhibits characteristics consistent with the Ranch style (asymmetrical façade, wide eaves, rectangular) though is not considered a particularly unique example of the style.	Not Eligible
1B	PIN: R039616 401 FM 971 Georgetown, Texas	Residential/Shed	Unknown	ca.2010	The resource is an end-gabled roofed shed rectangular in footprint. The shed appears to be a prefabricated structure.	Not Eligible
2	Guadalupe Cemetery 725 E Morrow St, Georgetown, TX 78626	Religious/Cemetery	No Style	ca. 1925	The cemetery has markers dating from 1926 through the present (confirmed on Findagrave.com for listing of burials). Primarily Hispanic-origin names are found. Markers vary from conglomerate formed concrete slabs, to traditional engraved stones. A chain-link fence encloses the property.	Not Eligible

Appendix C: Survey Forms for All Surveyed Properties

[see Documentation Standard for Historic Resources Survey Report]

Survey Date:	November 21, 2023
Resource No:	Resource 1A
Project Location:	401 FM 971 (Parcel ID# R039616)
Project Name and CSJ:	FM 971 Improvements; 2690-01-043
Address, Lat/Long:	401 FM 971 Georgetown, TX 78626 Lat: 30.656556 Long: -97.662141
Function/Sub-function:	Residential/House
Construction Date:	ca. 1975
NRHP Eligibility:	Not eligible
Integrity/Comments:	The house is overall rectangular in footprint with an end-gabled roof. The one-story house has a rear intersecting gable wing extending from the northeast end. The house exhibits features consistent with the Ranch style (asymmetrical façade, wide eaves, rectangular) though is not considered a particularly unique example of the style. Note: access was not granted onto property; limited images available. The below photograph and following aerial (included with Resource 1B) were utilized to make the windshield-level eligibility recommendation.

View facing northwest

Survey Date:	November 21, 2023
Resource No:	Resource 1B
Project Location:	401 FM 971 (Parcel ID# R039616)
Project Name and CSJ:	FM 971 Improvements; 2690-01-043
Address, Lat/Long:	401 FM 971 Georgetown, TX 78626 Lat: 30.656814 Long: -97.664139
Function/Sub-function:	Residential/Shed
Construction Date:	ca. 2010
NRHP Eligibility:	Not eligible
Integrity/Comments:	The resource is an end-gabled roofed shed rectangular in footprint. The shed appears to be a prefabricated structure.

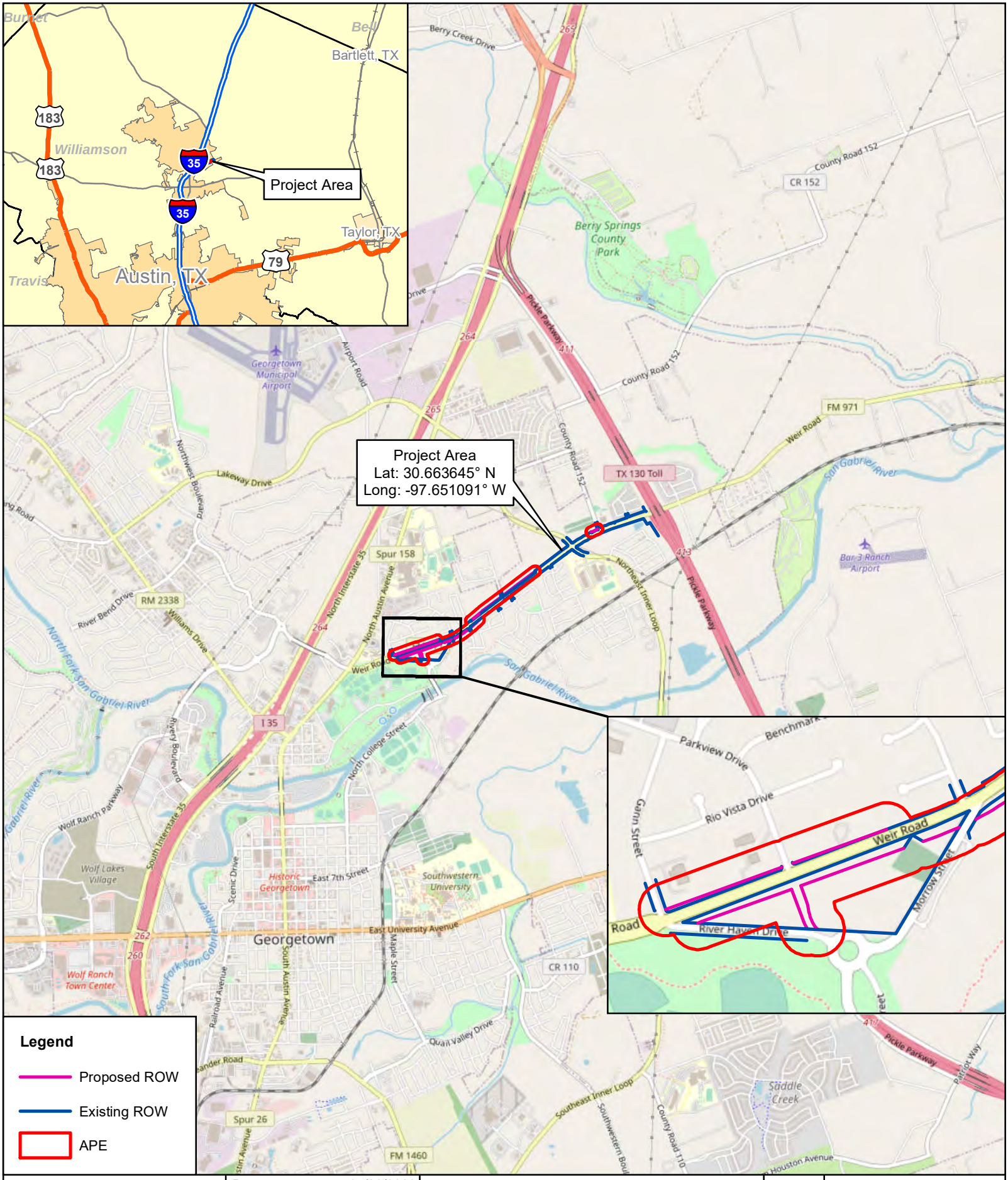
Aerial view of the property (Google Earth: 2022).

Survey Date:	November 21, 2023
Resource No:	Resource 2
Project Location:	725 E Morrow St, Georgetown, TX 78626
Project Name and CSJ:	FM 971 Improvements; 2690-01-043
Address, Lat/Long:	725 E Morrow St, Georgetown, TX 78626 Lat: 30.6555848, Long: -97.663089
Function/Sub-function:	Cemetery
Construction Date:	ca. 1925
NRHP Eligibility:	Not Eligible
Integrity/Comments:	The cemetery has markers dating from 1926 through the present (confirmed on Findagrave.com for listing of burials). Primarily Hispanic-origin names are found. Markers vary from conglomerate formed concrete slabs, to traditional engraved stones. A chain-link fence encloses the property.

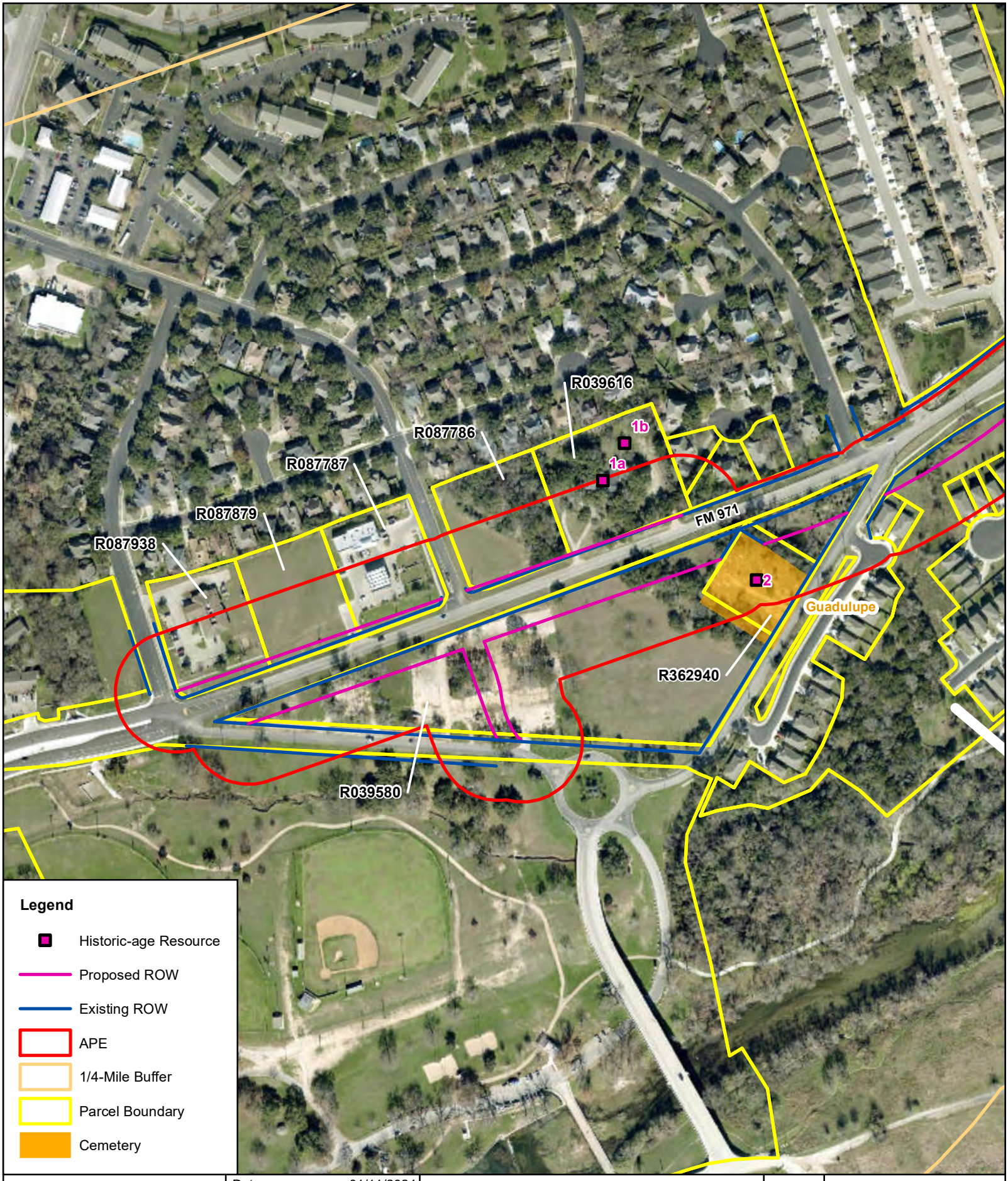
View from Morrow Street facing north towards Guadalupe Cemetery.

View of the Guadalupe Cemetery and Morrow Street, facing north-northeast.

Appendix D: Figures



LJAES_Filing_Master\Projects\2023\046-23043--LJA_City_of_Georgetown_FM971_\Graphics\AR\046-23043_AH_01A_Vicinity



Horizon Environmental Services

Date:	01/11/2024
Drawn:	KRW
HJN NO:	046-23043
Source:	Esri 2022; THC 2023

FM 971 Improvements
(SH 130 to CR 158)
Georgetown, Williamson County, Texas

0 50 100
Meters

0 150 300
Feet

LJAES_Filing_Master\Projects\2023\046-23043--LJA_City_of_Georgetown_FM971_\Graphics\AR\046-23043_AH_02A_Resources

Appendix E: Project Area Photographs

Project Area Photographs

Photo 1: View of Riverhaven Drive and FM 971, facing north.

Photo 2: View of Riverhaven Drive and FM 971 facing west.

Photo 3: View of Riverhaven Drive, facing east.

Photo 4: View from Riverhaven Drive facing south towards San Gabriel Park.

Photo 5: View facing northeast along FM 971 from Riverhaven Drive.

Photo 6: View of land between FM 971 and Riverhaven Drive, facing east.

Photo 7: View of FM 971 facing southwest from Parkside Crossing residential subdivision.

Photo 8: View of drainage structures adjacent to FM 971, facing northeast.

Photo 9: View of FM 971 facing northwest towards a newer bridge.

Photo 10: View of the frisbee golf course south of Riverhaven Drive, facing northeast.

Photo 11: View of the San Gabriel Park facing southeast from Riverhaven Drive.

Photo 12: View of parcel located between FM 971 and Riverhaven Drive, facing west.

Photo 13: View of parcel located between FM 971 and Riverhaven Drive, facing north.

Photo 14: View of parcel located between FM 971 and Riverhaven Drive, facing east.

Photo 15: View from Morrow Street facing north-northeast towards the Guadalupe Cemetery.

Photo 16: View from Morrow Street facing north towards Guadalupe Cemetery.

Photo 17: View of the Guadalupe Cemetery and Morrow Street, facing north-northeast.

Photo 18: View at the intersection of Parque Vista and FM 971, facing north.

Photo 19: View of FM 971 from Deep Creek Road, facing southwest.

Photo 20: View of FM 971 from Deep Creek Road, facing northeast.

Photo 21: View facing southeast down FM 971 from Prairie Springs Lane.

Photo 22: View from Prairie Springs Lane and FM 971, facing northeast.

Photo 23: View of FM 971 and Northeast Inner Loop near Cooper Elementary, facing southwest.

Photo 24: View of FM 971 and Northeast Inner Loop near Cooper Elementary, facing northeast.

Photo 25: View of County Road (CR) 152 and FM 971, facing west.

Photo 26: View of CR 152 and FM 971, facing east.

Photo 27: View of the Georgetown Memorial Cemetery from CR 152, facing west.

Photo 28: View of FM 971, facing northeast from south of Deep Creek Drive.

Photo 29: View of a ca.1978 house located at 801 FM 971, facing north (note that the house is not included in the 2016 City of Georgetown Historic Resources Survey and is not in the APE).

Appendix F: Consulting Party Comments

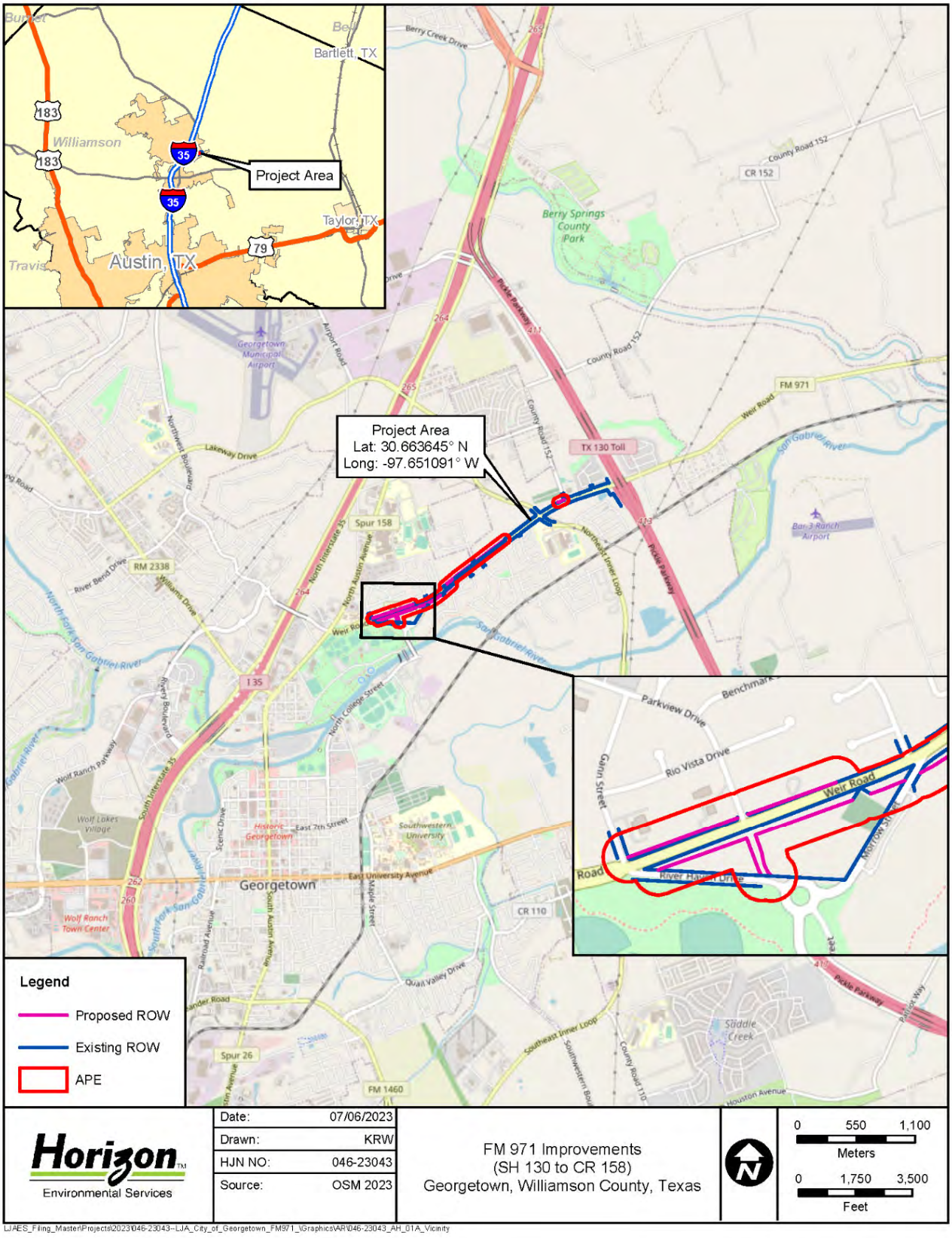
Kathryn Stclair

From: Kathryn Stclair
Sent: Thursday, December 21, 2023 11:22 AM
To: wilcohc@wilcohistory.org
Cc: Amy M. Brook
Subject: TxDOT FM 971 Roadway Improvements Project Information- Seeking Comments

Hello,

I am a consultant working with TxDOT to iden. fy historically significant resources (those considered eligible for listing in the National Register of Historic Places) that may be affected by a proposed roadway improvement project. We are seeking comments you may have regarding the proposed project, and information on known historically significant resources in the project area. Summarized below is a brief project description, and a project location map.

The proposed project occurs along FM 971 within a suburban area within the city limits of Georgetown in Williamson County, TX. The project area begins at the intersection of Weir Road and Gann Street and extends approximately 1.67 miles east to SH 130. The proposed facility would consist of four 11-foot lanes (two in each direction) divided by a 14-foot raised median, curb and gutter drainage with storm sewer and cross culverts, and a 10-foot shared-use path on both sides of the facility. The proposed typical minimum width of right-of-way (ROW) will be approximately 135 feet, and maximum width of ROW is approximately 150 feet, totaling 28 acres. There are no known or previously-documented historic resources located within the project area. There are two cemeteries adjacent to the project area: the Guadalupe and the Georgetown Memorial, though there is no ROW proposed from these cemeteries and no impacts are anticipated. A field survey will be conducted to identify historic-age (those 45 years or older at the time of the start of the project) and potentially historically-significant in and near the project area.



Thank you in advance for any comments you may have. Please reach out with any questions.

Kathryn

Kathryn St. Clair

Architectural History Manager

Horizon Environmental Services.
www.horizon-esi.com | TBPG Firm No. 50488 | An LJA Company

1507 S. Interstate 35, Austin, TX 78741-2502
O: 512.328.2430 | D: 512.439.4780 | C: 512.293.6895

From: noreply@thc.state.tx.us
To: Scott Pletka; reviews@thc.state.tx.us
Subject: 269001043 FM 971
Date: Friday, June 7, 2024 9:18:30 AM

Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202410680
Date: 06/07/2024
269001043 FM 971 (Permit 31712)
FM 971 at SH 130
Georgetown,TX 78626

Description: TxDOT proposes to widen FM 971. The submitted report is the draft archeological survey report for this project.

Dear TxDOT Staff:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Brad Jones, has completed its review and has made the following determinations based on the information submitted for review:

Archeology Comments

- No historic properties affected. However, if cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.
- THC/SHPO concurs with information provided.
- Property/properties are not eligible for listing in the National Register of Historic Places.
- This draft report is acceptable. To facilitate review and make project information and final reports available through the Texas Archeological Sites Atlas, we appreciate submission of tagged pdf copies of the final report including one restricted version with all site location information (if applicable), and one public version with all site location information redacted; an online abstract form submitted via the abstract tab on eTRAC; and survey area shapefiles submitted via the shapefile tab on eTRAC. For questions on

how to submit these please visit our video training series at: https://www.youtube.com/playlist?list=PLONbbv2pt4cog5t6mCqZVaEAx3d0MkgQC Please note that these steps are required for projects conducted under a Texas Antiquities Permit.

We have the following comments: THC concurs that newly recorded site 41WM1549 is not eligible for listing on the National Register of Historic Places or as a State Antiquities Landmark.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: brad.jones@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit http://thc.texas.gov/etrac-system.

Sincerely,

for Bradford Patterson
Chief Deputy State Historic Preservation Officer

Please do not respond to this email.

Archeological Survey of Portions of the Proposed FM 971 Improvements Project Between Gann Street and SH 130, Georgetown, Williamson County, Texas

By:

Jeffrey D. Owens, Kathryn St. Clair, and Jesse O. Dalton

Texas Antiquities Permit No. 31712
TxDOT CSJ No. 2690-01-043
LJAES046-23043

Prepared for:

LJA Engineering, Inc.
Austin, Texas

Prepared by:

Horizon Environmental Services
Austin, Texas

April 2024

Archeological Survey of Portions of the Proposed FM 971 Improvements Project Between Gann Street and SH 130, Georgetown, Williamson County, Texas

By:

Jeffrey D. Owens, Kathryn St. Clair, and Jesse O. Dalton

Prepared for:

LJA Engineering, Inc.
7500 Rialto Boulevard, Building II, Suite 100
Austin, Texas 78735

Prepared by:

Horizon Environmental Services
1507 S. Interstate 35
Austin, Texas 78741

Jeffrey D. Owens, Principal Investigator
TxDOT CSJ No. 2690-01-043
LJAES046-23043

Texas Antiquities Permit No. 31712

April 2024

MANAGEMENT SUMMARY

Horizon Environmental Services (Horizon) was selected by LJA Engineering, Inc. (LJA) on behalf of the City of Georgetown and the Texas Department of Transportation (TxDOT) to conduct an archeological inventory and assessment for the proposed Farm-to-Market Road (FM) 971 Improvements Project in Georgetown, Williamson County, Texas. The proposed undertaking would consist of constructing approximately 2.7 kilometers (1.7 miles) of roadway improvements along the existing right-of-way (ROW) of FM 971 as well as limited construction within areas of proposed new ROW. The Area of Potential Effect (APE) extends along FM 971 from the intersection of Gann Street at the southwestern end and State Highway (SH) 130 at the northeastern end. The existing ROW of FM 971 ranges from 24.4 to 45.7 meters (80.0 to 150.0 feet) in width, including some existing ROW along intersecting roads. Areas of proposed new ROW are discontinuous along both the northwestern and southeastern edges of the existing FM 971 ROW and are typically rather narrow, ranging from 3.0 to 13.7 meters (10.0 to 45.0 feet) in width. Overall, the APE consists of approximately 18.0 hectares (44.5 acres) of existing ROW and 1.7 hectares (4.1 acres) of proposed new ROW, for a total of 19.7 hectares (48.6 acres).

The proposed undertaking would be sponsored by the City of Georgetown and TxDOT, both of which are political subdivisions of the state of Texas; as such, the project falls under the regulatory jurisdiction of the Antiquities Code of Texas. In addition, the project would fall under the regulatory jurisdiction of Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, via the indirect involvement of the Federal Highway Administration (FHWA), TxDOT's parent agency. As the proposed project represents a publicly sponsored undertaking, the project sponsor was required to provide the applicable federal agencies and the Texas Historical Commission (THC), which serves as the State Historic Preservation Office (SHPO) for the state of Texas, with an opportunity to review and comment on the project's potential to adversely affect historic properties listed on or considered eligible for listing on the NRHP under the National Historic Preservation Act (NHPA) and/or for designation as State Antiquities Landmarks (SAL) under the Antiquities Code of Texas, as appropriate.

The majority of the project area has been extensively disturbed via construction, use, and ongoing maintenance of the existing FM 971 roadway and appurtenant facilities, including road and driveway intersections, drainage ditches, subsurface and overhead utilities, signage, and the construction of adjacent commercial developments and residential subdivisions. Based on these considerations, consultation undertaken with TxDOT and the THC prior to beginning the survey

fieldwork resulted in the determination that the majority of the project area did not need to be surveyed for archeological resources in connection with the current project. However, limited survey activities would be conducted in a few selected areas.

First, an approximately 0.8-kilometer- (0.5-mile-) long by 9.1-meter- (30.0-foot-) wide segment of proposed new ROW located off the northwestern side of FM 971 roughly between Prairie Springs Lane and Stone Mountain Road has been somewhat less extensively disturbed than the rest of the project area and may retain some potential for surficial and shallowly buried archeological deposits, primarily associated with the location of a former historic-age farmstead located approximately 228.6 meters (750.0 feet) southwest of the intersection of FM 971 and Prairie Springs Lane. The segment of proposed new ROW covers an area of approximately 0.7 hectare (1.7 acres).

Second, based on the physiographic setting of the project area, no deep mechanical testing for deeply buried archeological deposits was warranted for the project. However, an area of proposed ROW located off the southeastern side of FM 971 about 121.9 meters (400.0 feet) southwest of its intersection with Morrow Street would abut the boundaries of the Guadalupe Cemetery. Mechanical scraping and trenching excavations were conducted along an approximately 48.8-meter- (160.0-foot-) long section of the northwestern and northeastern boundaries of the cemetery to evaluate the potential for unmarked graves to be present within the project area.

Finally, two previously recorded prehistoric archeological sites, 41WM991 and 41WM1015, had been recorded within the existing FM 971 ROW. Both of these sites were recorded within the existing FM 971 ROW as surficial scatters of artifacts of undetermined prehistoric age that had been previously determined to be ineligible for inclusion in the National Register of Historic Places (NRHP). Based on the prior NRHP eligibility determinations and the extensively disturbed context of these sites resulting from construction, use, and ongoing maintenance of the existing roadway and appurtenant facilities, further investigations on these sites seemed unlikely to result in substantive new findings that would alter their previous NRHP eligibility determinations. Nevertheless, TxDOT requested that these sites be revisited and reinvestigated in connection with the proposed undertaking to confirm their current condition and NRHP eligibility status.

Thus, for purposes of the archeological survey, the survey area consisted of an approximately 0.8-kilometer- (0.5-mile-) long by 9.1-meter- (30.0-foot-) wide segment of proposed new ROW located off the northwestern side of FM 971 roughly between Prairie Springs Lane and Stone Mountain Road (0.7 hectare [1.7 acres]), mechanical scraping and trenching along approximately 48.8 meters (160.0 feet) of the northwestern and northeastern boundaries of the Guadalupe Cemetery, and revisits of two previously recorded archeological sites (41WM991 and 41WM1015) within the existing FM 971 ROW.

On April 10, 2024, Horizon archeologists Kailey Berube, Jesse Dalton, McKinzie Froese, and Jared Wiersema conducted an intensive archeological survey of the 0.8-kilometer- (0.5-mile-) long by 9.1-meter- (30.0-foot-) wide segment of proposed new ROW located off the northwestern side of FM 971 roughly between Prairie Springs Lane and Stone Mountain Road,

revisited and reinvestigated the mapped locations of sites 41WM991 and 41WM1015 within the existing FM 971 ROW, and conducted mechanical scraping operations along the outer boundaries of the Guadalupe Cemetery within the proposed limits of construction of the current proposed undertaking. Jeffrey D. Owens served as the Principal Investigator, and the survey was conducted under Texas Antiquities Permit No. 31712.

The segment of proposed new ROW between Prairie Springs Lane and Stone Mountain Road consisted of open pastures abutting the edge of the existing FM 971 ROW. Physiographically, this area traverses a relatively flat upland that forms an interfluve between Pecan Branch to the north and the North Fork of the San Gabriel River to the south. Vegetation consisted predominantly of short to slightly overgrown pasture grasses with a few scattered live oak trees. Visibility of the modern ground surface was generally poor (<30%) based on the density of vegetative ground cover. In addition to pedestrian walkover, for linear projects the Texas State Minimum Archeological Survey Standards (TSMASS) require the excavation of a minimum of one shovel test per 100.0 meters (328.1 feet) (i.e., 16 shovel tests per mile, or 10 shovel tests per kilometer) per 30.5-meter- (100.0-foot-) wide transect of right-of-way (or fraction thereof). Depending on field conditions, more shovel tests may be required in settings with a high potential for archeological resources (e.g., stream terraces, areas in proximity to known archeological resources), or fewer shovel tests may be necessary in areas with a low potential for archeological resources (e.g., steep slopes, extensively disturbed areas, heavily developed areas). As such, a minimum of eight shovel tests would be required within this 0.8-kilometer- (0.5-mile-) long by 9.1-meter- (30.0-foot-) segment of the project area. Horizon excavated 14 shovel tests in this area during the survey, thereby exceeding the TSMASS for a project area of this size. Sediments observed in shovel tests typically consisted of sticky, frequently mixed dark grayish-brown, yellowish-brown, very dark gray, very dark brown, and/or dark reddish-brown clay extending from the modern ground surface to the bottoms of shovel tests at depths ranging from 20.0 to 45.0 centimeters (7.9 to 17.7 inches) below surface. Many shovel tests contained road gravels and disturbed, extensively mixed sediments. It is Horizon's opinion that shovel testing was capable of fully penetrating sediments with the potential to contain subsurface archeological deposits.

Horizon also revisited the locations of two previously recorded archeological sites (41WM991 and 41WM1015) documented within the existing ROW of FM 971 during prior cultural resources projects. Site 41WM991 was mapped at the northern corner of the intersection of FM 971 and NE Inner Loop, and site 41WM1015 occupies both sides of the existing FM 971 ROW extending about 137.2 meters (450.0 feet) west-southwest from its intersection with SH 130. Horizon excavated six shovel tests within the existing FM 971 and NE Inner Loop ROWs surrounding the centroid that marks the mapped location of site 41WM991 and an additional six shovel tests within the mapped boundaries of site 41WM1015 within the existing FM 971 ROW. No archeological resources were observed on the modern ground surface or within any of the shovel tests excavated at the previously recorded archeological site locations, and it is Horizon's conclusion that the portions of these NRHP-ineligible sites within the existing FM 971 ROW have been destroyed via construction, use, and ongoing maintenance of FM 971, NE Inner Loop, and SH 130.

Finally, mechanical scraping and trenching excavations were conducted along an approximately 48.8-meter- (160.0-foot-) long section of the northwestern and northeastern boundaries of the Guadalupe Cemetery to evaluate the potential for unmarked graves to be present within the project area. The Guadalupe Cemetery is predominantly Hispanic. The cemetery reportedly contains about 331 memorials ranging in date from 1928 to 2016, though the dates of a few of the memorials are unknown. The cemetery is well maintained and is currently in use, though the cemetery is rather full of graves and there seem to be few remaining areas for open plots. The main entrance to the cemetery is on Morrow Street on its southeastern side. The vast majority of the grave plots are edged with concrete curbing. The "back," or northwestern, and northeastern edges of the cemetery have continuous lines of graves, again mostly lined with concrete curbing, that extend to within inches of the chain link fence that marks the cemetery boundaries, though no obvious signs of unmarked graves are apparent outside the cemetery fence within the current project area. Based on examination of historical aerial photographs, the boundaries of this cemetery do not appear to have changed between 1958, the date of the earliest available aerial photograph, and the present.

Horizon excavated a continuous trench measuring roughly 48.8 meters (160.0 feet) in length utilizing a 0.9-meter- (3.0-foot-) wide bucket with a smooth-edged cleanout just outside of the northwestern and northeastern boundaries of the cemetery within the current project area. A large pond had been excavated northeast of the cemetery, and some of the borrow sediments from excavation of the pond had been piled up along the northeastern fence line of the cemetery, forming a long, linear berm approximately 0.8 meter (2.5 feet) in height. The trench was excavated to depths ranging from 55.0 to 205.0 centimeters (21.7 to 80.7 inches) below surface. Sediments observed in exposed trench wall profiles typically consisted of gravelly clay loam to loam overlying weakly cemented limestone, chalk, or marly bedrock at depths of 50.0 to 195.0 centimeters (19.7 to 76.8 inches) below surface, though this transition typically occurred at depths of 50.0 to 80.0 centimeters (19.7 to 31.5 inches) below surface. Sediments observed in the mechanical scrape appeared to be natural in origin (aside from some surficial borrow spoil along the northeastern fence line), and it is Horizon's opinion that any soil discolorations or stratigraphic anomalies indicative of possible unmarked graves would have been visible in the light-colored chalky and marly bedrock and in the light-colored, loamy profiles of the mechanical scrapes. Also, an existing subsurface water line passes roughly east to west about 3.5 meters (11.5 feet) north of the northern corner of the cemetery within the existing FM 971 ROW. It is Horizon's opinion that there are no unmarked graves associated with the Guadalupe Cemetery outside of the currently fenced cemetery boundaries within the limits of the current project area.

One newly recorded archeological site—41WM1549—was recorded within a segment of proposed new ROW within the project area during the survey. Site 41WM1549 represents the ephemeral remains of a historic-age farmstead that formerly stood at the site location from as early as 1925 (possibly earlier) to sometime between 1974 and 1981, at which time it was completely razed. As depicted on historical imagery, the farmstead formerly consisted of a house, a large rectangular barn, and several small agricultural outbuildings that formed a tight cluster off the northwestern side of FM 971. Currently, the site consists only of a single positive shovel test in a grassy pasture containing 12 glass shards, a ceramic sherd, four pieces of plastic, one 1962 penny, several cut faunal bones, and one cloth fragment within the upper 20.0 centimeters

(7.9 inches) of sediments, plus one brick fragment observed on the modern ground surface. The parcel on which the farmstead is located was owned by a fairly large number of landowners over the course of the 20th century, including the Parks, King, Daniel, Ferguson, Mueller, Melburn, Haverland, Stacks, Schwend, and Kellum families, all of whom may have occupied the farm at various times (or rented it out to tenants). Based on the ephemeral deposit of 20th-century domestic debris that currently characterizes the site, the lack of extant architectural or other cultural features, the sparse and disturbed nature of the shallow archeological deposits, and lack of associations with persons or families of historical significance, site 41WM1549 is recommended as ineligible for inclusion in the NRHP and for designation as an SAL. No further investigations are recommended on site 41WM1549 in connection with the proposed undertaking.

Based on the results of the survey-level investigations documented in this report, no potentially significant archeological resources would be affected by the proposed undertaking in the surveyed portions of the project area. In accordance with 36 CFR 800.4, Horizon has made a reasonable and good-faith effort to identify historic properties within the project area. No archeological resources were identified within the project area that meet the criteria for designation as SALs according to 13 TAC 26 or for inclusion in the NRHP under 36 CFR 60.4. Horizon recommends a finding of "no historic properties affected," and no further archeological work is recommended in connection with the proposed undertaking in surveyed areas (as noted above, some components of the project area remain to be surveyed). However, human burials, both precontact and historic, are protected under the Texas Health and Safety Code. In the event that any human remains or burial objects are inadvertently discovered at any point during construction or ongoing maintenance in the project area, even in previously surveyed areas, all work should cease immediately in the vicinity of the inadvertent discovery, and the THC should be notified immediately. Following completion of the project, project records will be permanently curated at the Texas Archeological Research Laboratory (TARL).

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1.0 INTRODUCTION

Horizon Environmental Services (Horizon) was selected by LJA Engineering, Inc. (LJA) on behalf of the City of Georgetown and the Texas Department of Transportation (TxDOT) to conduct an archeological inventory and assessment for the proposed Farm-to-Market Road (FM) 971 Improvements Project in Georgetown, Williamson County, Texas. The proposed undertaking would consist of constructing approximately 2.7 kilometers (1.7 miles) of roadway improvements along the existing right-of-way (ROW) of FM 971 as well as limited construction within areas of proposed new ROW (Figures 1 to 3). The Area of Potential Effect (APE) extends along FM 971 from the intersection of Gann Street at the southwestern end and State Highway (SH) 130 at the northeastern end. The existing ROW of FM 971 ranges from 24.4 to 45.7 meters (80.0 to 150.0 feet) in width, including some existing ROW along intersecting roads. Areas of proposed new ROW are discontinuous along both the northwestern and southeastern edges of the existing FM 971 ROW and are typically rather narrow, ranging from 3.0 to 13.7 meters (10.0 to 45.0 feet) in width. Overall, the APE consists of approximately 18.0 hectares (44.5 acres) of existing ROW and 1.7 hectares (4.1 acres) of proposed new ROW, for a total of 19.7 hectares (48.6 acres).

The proposed undertaking would be sponsored by the City of Georgetown and TxDOT, both of which are political subdivisions of the state of Texas; as such, the project falls under the regulatory jurisdiction of the Antiquities Code of Texas. In addition, the project would fall under the regulatory jurisdiction of Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, via the indirect involvement of the Federal Highway Administration (FHWA), TxDOT's parent agency. As the proposed project represents a publicly sponsored undertaking, the project sponsor was required to provide the applicable federal agencies and the Texas Historical Commission (THC), which serves as the State Historic Preservation Office (SHPO) for the state of Texas, with an opportunity to review and comment on the project's potential to adversely affect historic properties listed on or considered eligible for listing on the NRHP under the National Historic Preservation Act (NHPA) and/or for designation as State Antiquities Landmarks (SAL) under the Antiquities Code of Texas, as appropriate.

The majority of the project area has been extensively disturbed via construction, use, and ongoing maintenance of the existing FM 971 roadway and appurtenant facilities, including road and driveway intersections, drainage ditches, subsurface and overhead utilities, signage, and the construction of adjacent commercial developments and residential subdivisions. Based on these

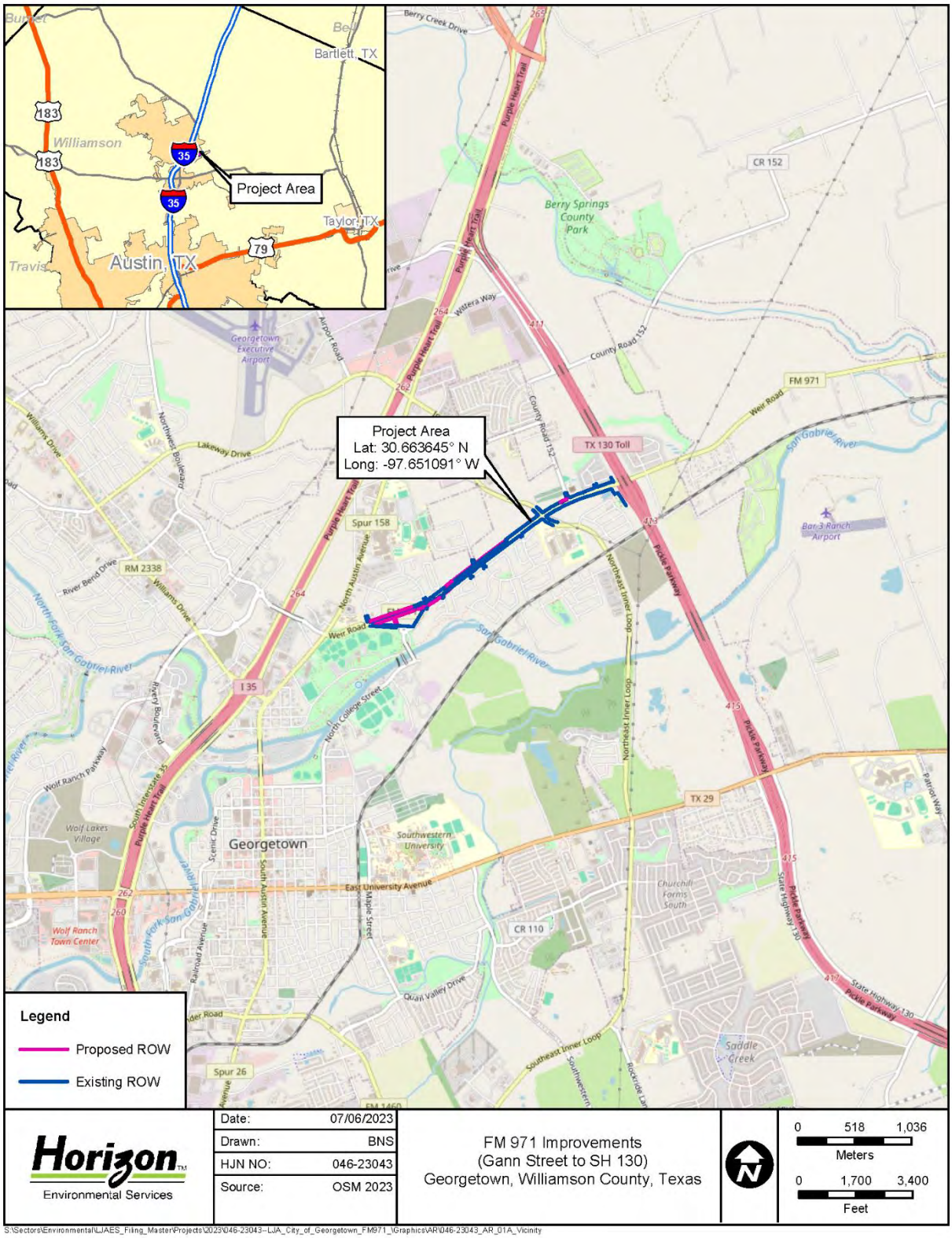

Figure 1. Vicinity Map of Project Area

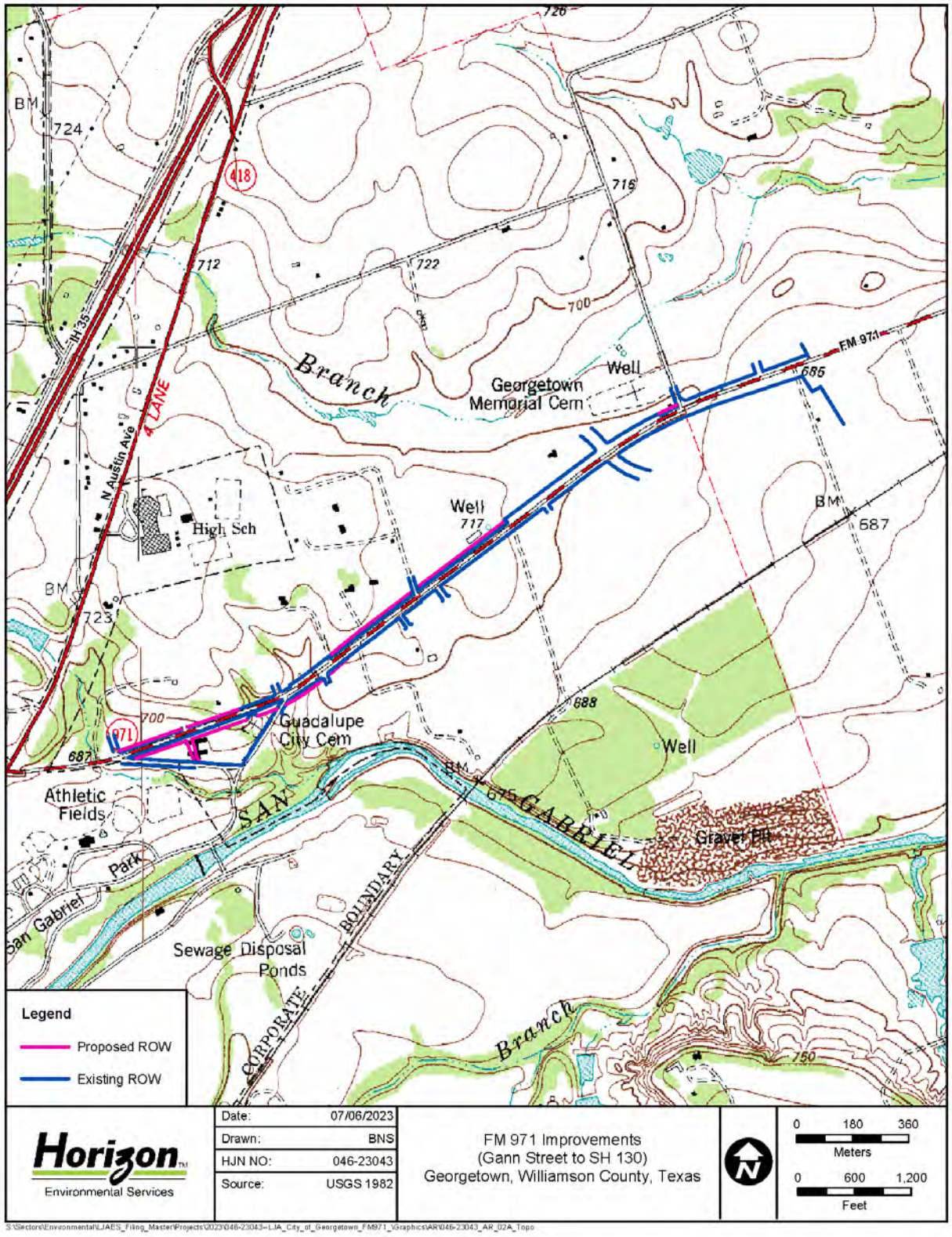

Figure 2. Location of Project Area on USGS Topographic Map

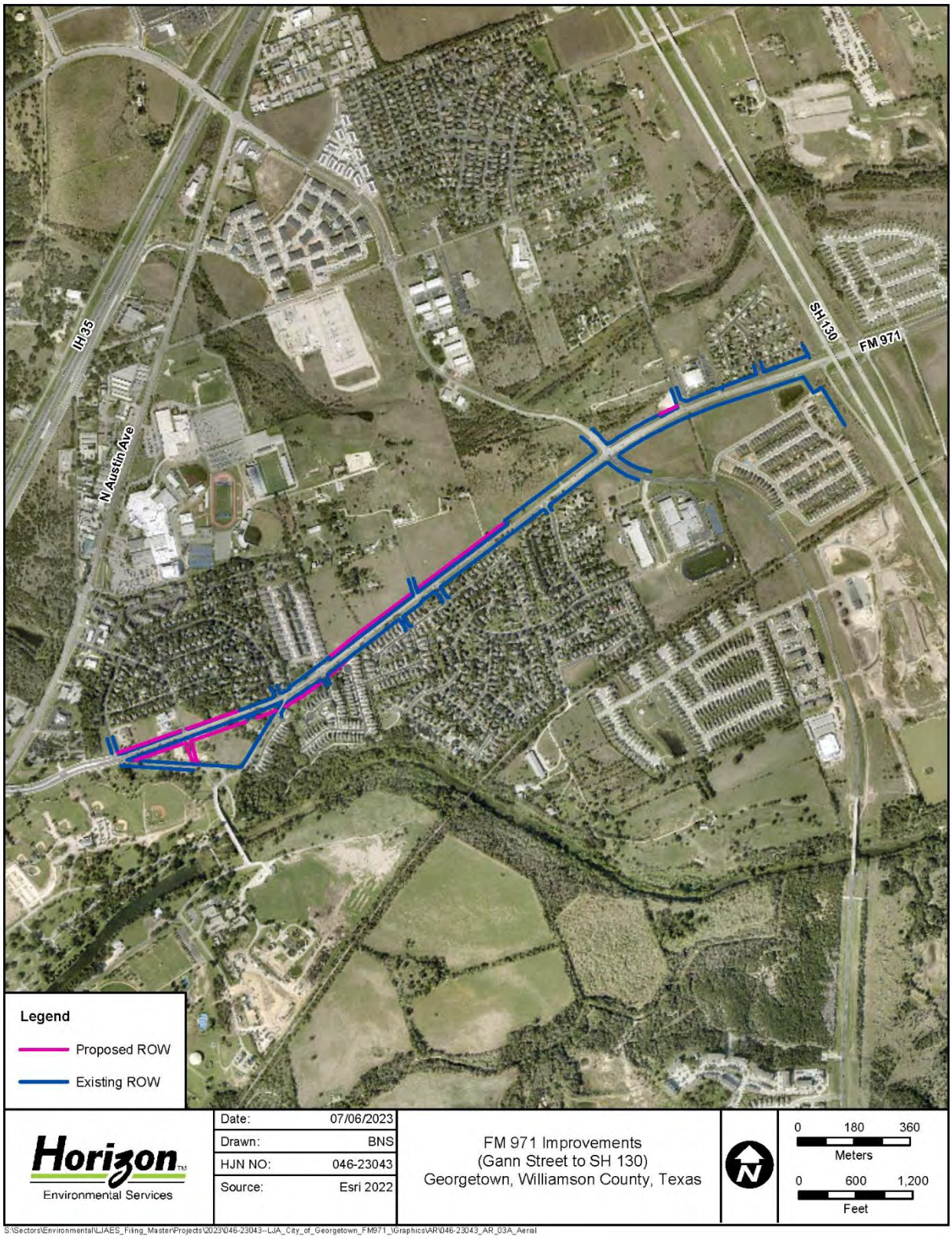

Figure 3. Location of Project Area on Aerial Photograph

considerations, consultation undertaken with TxDOT and the THC prior to beginning the survey fieldwork resulted in the determination that the majority of the project area did not need to be surveyed for archeological resources in connection with the current project. However, limited survey activities would be conducted in a few selected areas.

First, an approximately 0.8-kilometer- (0.5-mile-) long by 9.1-meter- (30.0-foot-) wide segment of proposed new ROW located off the northwestern side of FM 971 roughly between Prairie Springs Lane and Stone Mountain Road has been somewhat less extensively disturbed than the rest of the project area and may retain some potential for surficial and shallowly buried archeological deposits, primarily associated with the location of a former historic-age farmstead located approximately 228.6 meters (750.0 feet) southwest of the intersection of FM 971 and Prairie Springs Lane. The segment of proposed new ROW covers an area of approximately 0.7 hectare (1.7 acres).

Second, based on the physiographic setting of the project area, no deep mechanical testing for deeply buried archeological deposits was warranted for the project. However, an area of proposed ROW located off the southeastern side of FM 971 about 121.9 meters (400.0 feet) southwest of its intersection with Morrow Street would abut the boundaries of the Guadalupe Cemetery. Mechanical scraping and trenching excavations were conducted along an approximately 48.8-meter- (160.0-foot-) long section of the northwestern and northeastern boundaries of the cemetery to evaluate the potential for unmarked graves to be present within the project area.

Finally, two previously recorded prehistoric archeological sites, 41WM991 and 41WM1015, had been recorded within the existing FM 971 ROW. Both of these sites were recorded within the existing FM 971 ROW as surficial scatters of artifacts of undetermined prehistoric age that had been previously determined to be ineligible for inclusion in the National Register of Historic Places (NRHP). Based on the prior NRHP eligibility determinations and the extensively disturbed context of these sites resulting from construction, use, and ongoing maintenance of the existing roadway and appurtenant facilities, further investigations on these sites seemed unlikely to result in substantive new findings that would alter their previous NRHP eligibility determinations. Nevertheless, TxDOT requested that these sites be revisited and reinvestigated in connection with the proposed undertaking to confirm their current condition and NRHP eligibility status.

Thus, for purposes of the archeological resources survey, the survey area consisted of an approximately 0.8-kilometer- (0.5-mile-) long by 9.1-meter- (30.0-foot-) wide segment of proposed new ROW located off the northwestern side of FM 971 roughly between Prairie Springs Lane and Stone Mountain Road (0.7 hectare [1.7 acres]), mechanical scraping and trenching along approximately 48.8 meters (160.0 feet) of the northwestern and northeastern boundaries of the Guadalupe Cemetery, and revisits of two previously recorded archeological sites (41WM991 and 41WM1015) within the existing FM 971 ROW.

On April 10, 2024, Horizon archeologists Kailey Berube, Jesse Dalton, McKinzie Froese, and Jared Wiersema conducted an intensive archeological survey of the 0.8-kilometer- (0.5-mile-) long by 9.1-meter- (30.0-foot-) wide segment of proposed new ROW located off the

northwestern side of FM 971 roughly between Prairie Springs Lane and Stone Mountain Road, revisited and reinvestigated the mapped locations of sites 41WM991 and 41WM1015 within the existing FM 971 ROW, and conducted mechanical scraping operations along the outer boundaries of the Guadalupe Cemetery within the proposed limits of construction of the current proposed undertaking. Jeffrey D. Owens served as the Principal Investigator, and the survey was conducted under Texas Antiquities Permit No. 31712. The archeological investigation consisted of an archival review, an intensive pedestrian survey of the project area with systematic shovel testing and mechanical excavations, and the production of a report suitable for review by TxDOT and the SHPO in accordance with the THC's *Rules of Practice and Procedure* (13 TAC 26) and the Council of Texas Archeologists (CTA) *Guidelines for Cultural Resources Management Reports*.

Following this introductory chapter, Chapters 2.0 and 3.0 present the environmental and cultural backgrounds, respectively, of the project area. Chapter 4.0 describes the results of background archival research, and Chapter 5.0 discusses archeological survey methods. Chapter 6.0 presents the results of the cultural resources survey, and Chapter 7.0 presents archeological management recommendations for the project. Chapter 8.0 lists the references cited in the report. Appendix A summarizes shovel test data.

2.0 ENVIRONMENTAL SETTING

2.1 PHYSIOGRAPHY AND HYDROLOGY

The project area is located in a mixed residential, light commercial, and agricultural area in the northeastern portion of Georgetown in central Williamson County, Texas, near the boundary of two significant physiographic provinces—the Edwards Plateau and the Blackland Prairie. The Blackland Prairie, the narrow physiographic zone situated between the Edwards Plateau on the west and the Gulf Coastal Plain on the east, is a low, rolling land that extends in a narrow band along the eastern edge of the Balcones fault zone from the Red River Valley in northeastern Texas to the southern edge of the Edwards Plateau. This is an area of low topographic relief and poor drainage in which water often ponds after rainstorms and streams flow at very gentle gradients. The Edwards Plateau and Balcones Escarpment are associated with a great fault system that arcs across Texas to form a distinct boundary between uplands composed primarily of limestone bedrock and lower plains composed mostly of softer rocks. In places, this boundary is marked by an abrupt scarp (the Balcones Escarpment) and in others by a more gradational ramp, but the entire length of this transition zone is a major ecotone in terms of topography, bedrock, hydrology, soil, vegetation, and animal life.

Physiographically, the project area traverses a predominantly upland setting characterized by gently rolling Pleistocene-age terraces and Cretaceous-age calcareous clay uplands along the northern edge of the valley of the North Fork of the San Gabriel River. The project area crosses as many as three minor, unnamed tributaries of the North Fork of the San Gabriel River, which drain southward across the project area toward the river channel to the south. Elevations within the project area are relatively flat, ranging only from about 208.8 to 213.4 meters (685.0 to 700.0 feet) above mean sea level (amsl).

Hydrologically, the project area is situated within the Brazos River basin. The project area is drained by several minor, unnamed tributaries of the North Fork of the San Gabriel River, which flows generally eastward, discharging into the Little River southwest of Cameron. The Little River meanders generally eastward, emptying into the Brazos River in Robertson County. The Brazos River continues southeastward across the coastal plain, ultimately discharging into the Gulf of Mexico near Freeport, Texas.

2.2 GEOLOGY AND GEOMORPHOLOGY

Central Williamson County is underlain by a thick sequence of Cretaceous-age sedimentary rock strata, while areas of alluvium may be present adjacent to major streams and rivers. Geologically, the project area traverses predominantly Pleistocene-age terraces associated with the Fluviatile Terrace Deposits (Qt) geological formation, which consist of gravel, sand, silt, and clay (USGS 2024). A short segment of the project area, roughly extending between Haverland Drive on the northeast and Parkview Drive on the southwest, traverses the Cretaceous-age Del Rio Clay and Georgetown (Kdg) geological formation, which consists of calcareous and gypsiferous clay and mixed deposits of limestone and marl (USGS 2024).

Geomorphologically, sediments mapped within the project area include a mosaic of residuum weathered in situ from underlying bedrock as well as Quaternary (primarily Pleistocene-age) loamy and gravelly alluvium (Figure 4; Table 1) (NRCS 2023). Due to the antiquity of these landforms and soil units, archeological resources within the project area would be anticipated to occur primarily on the modern ground surface or in shallowly buried subsurface contexts. Sediments within the existing ROW and the majority of the proposed new ROW within the project area have been extensively disturbed via construction, use, and ongoing maintenance of the existing FM 971 roadway and appurtenant facilities, including road and driveway intersections, drainage ditches, subsurface and overhead utilities, and signage.

2.3 CLIMATE

Evidence for climatic change from the Pleistocene to the present is most often obtained through studies of pollen and faunal sequences (Bryant and Holloway 1985; Collins 1995). Bryant and Holloway (1985) present a sequence of climatic change for nearby east-central Texas from the Wisconsin Full Glacial period (22,500 to 14,000 B.P.) through the Late Glacial period (14,000 to 10,000 B.P.) to the Post-Glacial period (10,000 B.P. to present). Evidence from the Wisconsin Full Glacial period suggests that the climate in east-central Texas was considerably cooler and more humid than at present. Pollen data indicate that the region was more heavily forested in deciduous woodlands than during later periods (Bryant and Holloway 1985). The Late Glacial period was characterized by slow climatic deterioration and a slow warming and/or drying trend (Collins 1995). In east-central Texas, the deciduous woodlands were gradually replaced by grasslands and post oak savannas (Bryant and Holloway 1985). During the Post-Glacial period, the east-central Texas environment appears to have been more stable. The deciduous forests had long since been replaced by prairies and post oak savannas. The drying and/or warming trend that began in the Late Glacial period continued into the mid-Holocene, at which point there appears to have been a brief amelioration to more mesic conditions lasting from roughly 6000 to5000 B.P. Recent studies by Bryant and Holloway (1985) indicate that modern environmental conditions in east-central Texas were probably achieved by 1,500 years ago.

Williamson County is located within the south-central climatic division. The modern climate is typically dry to subhumid with long, hot summers and short, mild winters. The climate is influenced primarily by tropical maritime air masses from the Gulf of Mexico, but it is modified by polar air masses. Tropical maritime air masses predominate throughout spring, summer, and

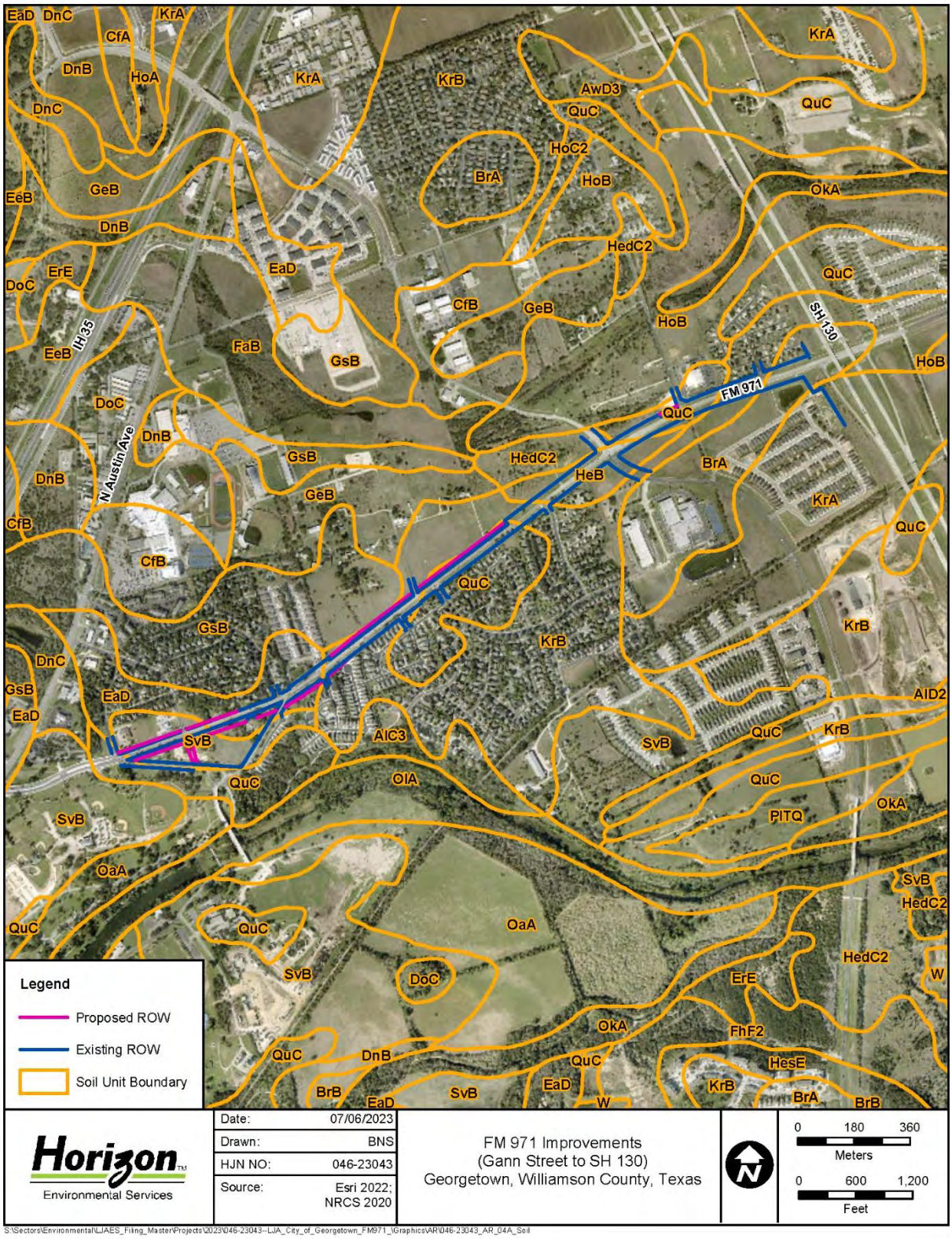

Figure 4. Soil Map of Project Area

Table 1. Summary of Soils Mapped within Project Area

NRCS Soil Code	Soil Name	Parent Material	Typical Profile (inches)
EaD	Eckrant cobbly clay, 1 to 8% slopes	Residuum weathered from limestone on ridges	0-4: Cobbly clay (A1) 4-11: Very cobbly clay (A2) 11-80: Bedrock (R)
GsB	Georgetown stony clay loam, 1 to 3% slopes	Clayey residuum weathered from limestone on ridges	0-7: Stony clay loam (A) 7-35: Cobbly clay (Bt) 35-60: Bedrock (R)
HeB	Houston Black clay, 1 to 3% slopes	Clayey residuum weathered from calcareous mudstone of Upper Cretaceous age on ridges	0-6: Clay (Ap) 6-70: Clay (Bkss) 70-80: Clay (BCkss)
KrB	Krum silty clay, 1 to 3% slopes	Clayey alluvium of Pleistocene age on stream terraces	0-6: Silty clay 6-44: Silty clay 44-72: Silty clay
QuC	Queeny clay loam, 1 to 5% slopes	Gravelly alluvium of Quaternary age on paleoterraces	0-18: Clay loam 18-32: Cemented material 32-99: Variable
SvB	Sunev silty clay loam, 1 to 3% slopes	Loamy alluvium of Quaternary age on stream terraces	0-18: Silty clay loam 18-52: Silty clay loam 52-60: Silty clay loam

Source: NRCS (2023)

NRCS = Natural Resources Conservation Service

fall. Modified polar air masses are dominant in winter and provide a continental climate characterized by considerable variations in temperature.

On average throughout the past century, precipitation and temperature in Texas manifest regional clines with mean annual precipitation totals declining fairly regularly from east to west and mean annual temperature declining equally evenly from northwest to southeast (Larkin and Bomar 1983). In Central Texas, climate has fluctuated from subtropical humid to subtropical subhumid. Average annual precipitation totals 81.3 centimeters (32.0 inches) and temperature averages 19°C (67°F) annually, ranging from 36°C (96°F) in August (the warmest month) to 15°C (59°F) in January (the coldest month). During this time, however, drier periods lasting from three to seven years, when total annual rainfall ranged from 30.5 to 63.5 centimeters (12.0 to 25.0 inches), were followed by abnormally wet years with 114.3 to 127.0 centimeters (45.0 to 50.0 inches) of rainfall.

Two annual precipitation peaks, which typically occur in May and September, are associated with frontal storms that form when southward-moving cool air masses collide with warm, moist air masses moving inland from the Gulf of Mexico (Bomar 1983; Carr 1967). The topographic discontinuity along the Balcones Escarpment lies directly in the path of the Gulf storm trace and increases the lift in convective storms to produce extreme amounts of rainfall. Two extreme examples are the excess of 91.4 centimeters (36.0 inches) of rain that fell within an 18-hour period in the vicinity of Thrall, Texas, in September 1921, and the 55.9-centimeters (22.0-inch) deluge that fell in less than three hours near O'Harris, Texas, in May 1935. Lower rainfall

amounts are characteristic of winter and late summer. In winter, frontal storms pass so frequently that there is little time for moisture to increase, and prevailing upper-level winds from west to east often dominate over meridional flow, meaning that much of the available moisture is derived from the Pacific rather than from the Gulf of Mexico. In summer, cool fronts rarely penetrate into the region, and rainfall occurs primarily as localized, thermal convective storms.

2.4 BIOTA

The project area is situated in the southwestern portion of the Texan biotic province (Blair 1950), an intermediate zone between the forests of the Austroriparian and Carolinian provinces and the grasslands of the Kansan, Balconian, and Tamaulipan provinces. Some species reach the limits of their ecological range within the Texan province. The boundary, characterized as "approximate," between Blair's (1950) Texan and Balconian provinces passes through western Williamson County, northwest of the project area. Rainfall in the Texan province is barely in excess of water need, and the region is classified by Thornwaite (1948) as a C_2 (moist subhumid) climate with a moisture surplus index of from 0 to 20%.

Edaphic controls on vegetation types are important in the Texan biotic province, which is located near the border between moisture surplus and moisture deficiency. Sandy soils support oak-hickory forests dominated by post oak (*Quercus stellata*), blackjack oak (*Q. marilandica*), and hickory (*Carya buckleyi*). Clay soils originally supported a tall-grass prairie, but much of this soil type has been placed under cultivation. Dominant tall-grass prairie species include western wheatgrass (*Agrophyron smithii*), silver beardgrass (*Andropogon saccharoides*), little bluestem (*Andropogon scoparius*), and Texas wintergrass (*Stipa leucotricha*). Major areas of oak-hickory forest include the Eastern and Western Cross Timbers, and major tall-grass prairie areas include the Blackland, Grand, and Coastal prairies. Some characteristic associations of the Austroriparian province occur locally in the Texan province, such as a mixed stand of loblolly pine (*Pinus taeda*) and blackjack and post oak in Bastrop County and a series of peat and bog marshes distributed in a line extending from Leon to Gonzales counties.

The fauna associated with this region are represented by a mixture of species from the Austroriparian, Tamaulipan, Chihuahuan, Kansan, Balconian, and Texan biotic provinces. At least 49 species of mammals occur in the Texan province, including Virginia opossum (*Didelphis virginiana*), eastern mole (*Scalopus aquaticus*), fox squirrel (*Sciurus niger*), desert pocket gopher (*Geomys breviceps*), fulvous harvest mouse (*Reithrodontomys fulvescens*), white-footed mouse (*Peromyscus leucopus*), hispid cotton rat (*Sigmodon hispidus*), eastern cottontail rabbit (*Sylvilagus floridanus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), white-footed mouse (*Peromyscus leucopus*), black-tailed jackrabbit (*Sylvilagus californicus*), ground squirrel (*Citellus tridecemlineatus*), white-tailed deer (*Odocoileus virginiana*), hispid pocket mouse (*Perognathus hispidus*), deer mouse (*Peromyscus maniculatus*), pygmy mouse (*Baiomys taylori*), 9-banded armadillo (*Dasypus novemcinctus*), and jaguar (*Felis onca*).

Both species of *Terrapene* known from the Austroriparian province—eastern box turtle (*T. Carolina*) and desert box turtle (*T. ornata*)—occur in the Texan. Sixteen species of lizards, including seven grassland and nine forest species, are also found, including green anole (*Anolis carolinensis*), eastern fence lizard (*Sceloporus undulates*), common ground skink (*Leiolopisma*

laterale), glass snake (*Ophiosaurus ventralis* [grassland species]), collared lizard (*Crotaphytus collaris*), Texas spiny lizard (*Sceloporus olivaceous*), Texas horned lizard (*Phrynosoma cornutum*), and Great Plains skink (*Eumeces obsoletus* [forest species]). Only five species of urodele fauna are known from this area, including small-mouthed salamander (*Ambystoma texanum*), tiger salamander (*Ambystoma tigrinum*), and eastern lesser siren (*Siren intermedia*), and the Texan province acts as a barrier to urodele distribution between the endemic Balconian province fauna to the west and the Austroriparian fauna to the east.

Anuran fauna is composed primarily of Austroriparian or otherwise widely distributed species, including eastern spadefoot toad (*Scaphiopus holbrookii*), Gulf Coast toad (*Bufo valliceps*), Woodhouse's toad (*Bufo woodhousii*), southern cricket frog (*Acris gryllus*), southern chorus frog (*Pseudacris nigrita*), gray treefrog (*Hyla versicolor*), green treefrog (*Hyla cinerea*), North American bullfrog (*Rana catesbeiana*), northern leopard frog (*Rana pipiens*), and narrow-mouthed toad (*Microhyla carolinensis*). Additional anuran species that fail to cross from the Texan into the Austroriparian province include pacific tree frog (*Pseudacris clarkia*), Strecker's chorus frog (*Pseudacris streckeri*), and striped whipsnake (*Microhyla olivacea*).

Other reptile and amphibian species common to this biotic zone include six-lined racerunner (*Aspidoscelis sexlineata*), rat snake (*Ptyas mucosus*), eastern hognose snake (*Heterodon platirhinos*), rough green snake (*Opheodrys aestivus*), copperhead (*Agkistrodon contortrix*), western diamondback rattlesnake (*Crotalus atrox*), Blanchard's cricket frog (*Acris crepitans*), diamondback water snake (*Nerodia rhombifer rhombifer*), and Houston toad (*Bufo houstonensis*). Common bird species include northern bobwhite (*Colinus virginianus*), eastern meadowlark (*Sturnella magna*), mourning dove (*Zenaida macroura*), killdeer (*Charadrius vociferus*), field sparrow (*Spizella pusilla*), red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), belted kingfisher (*Ceyrle alcyon*), and mockingbird (*Mimus polyglottos*). Small herds of bison and antelope were common during the late precontact and early historic periods, but these species are no longer native to this region (Jurney et al. 1989:13-14).