Archeological Survey Report

Project Name: Farm-to-Market (FM) 741 Road Widening

Project Limits: From US Highway (US) 175 to FM 548

District(s): Dallas

County(s): Kaufman

CSJ Number(s): 1092-01-021

Prinicipal Investigator and Firm/Organization: Melissa M Green, MA, RPA
Cox|McLain Environmental Consulting, Inc.,
now Stantec

Antiquities Permit No. 30742

Report Completion Date: November 18, 2022

Abstract

The Texas Department of Transportation (TxDOT) is proposing improvements to Farm-to-Market (FM) Road 741 from US Highway (US) 175 to FM 548 in Forney, Kaufman County, Texas. The proposed project extends between the cities of Forney, Mesquite, and Crandall, which includes 8.32 miles (13.39 kilometers) of FM 741 from US 175 to FM 548 in Kaufman County. The existing right-of-way's width typical width is 90 feet (27.4 meters), and the proposed right-of-way width would vary between 120 to 180 feet (36.5 to 54.8 meters). The project's archeological area of potential effects (APE) covers a total of 141.13 acres, including 100.09 acres of existing right-of-way, 40.58 acres of proposed right-of-way, and 0.46 acres of existing easements.

The project is owned by TxDOT, a subdivision of the State of Texas, rendering the project subject to the Antiquities Code of Texas. Federal Highway Administration (FHWA) funds and guidance will be utilized for this project (with TxDOT acting on behalf of FHWA), so it is also subject to Section 106 of the National Historic Preservation Act (NHPA), as amended.

Texas Antiquities Permit # 30742 was assigned to this project by the Texas Historical Commission (THC). Brett Lang (Project Archeologist) and Floyd Kent of Cox|McLain Environmental Consulting, Inc. (CMEC) now Stantec conducted survey fieldwork in September 2022 under the direction of Principal Investigator Melissa Green. In all, 59 shovel test units were excavated within the APE. The number of shovel tests and their placement followed guidelines established by the Council of Texas Archeologists (CTA) and approved by the THC in April 2020.

Two historic-age archeological sites (41KF235 and 41KF236) and one multicomponent site (41KF234) were recorded during this survey. No resources at any of the three sites demonstrated potential to be eligible for listing on the National Register of Historic Places (NRHP) or as a SAL. No evidence was found of preserved deposits with a high degree of integrity, associations with distinctive architectural and material culture styles, rare materials, or assemblages. All three sites are recommended ineligible for inclusion on the NRHP. Additionally, mechanical scraping outside of the Mount Pilgrim Cemetery fenced boundaries yielded no evidence of burials outside the cemetery boundaries. No further archeological work is recommended within the surveyed portions of the APE prior to construction However, survey is recommended for the inaccessible 16.04 acres of new right-of-way once acquired or access is otherwise granted.

No cultural materials were collected during the current survey; therefore, only project records will need to be curated per Texas Administrative Code (TAC) 26.16 and 26.17. Project records will be curated at the Center for Archeological Studies (CAS) at Texas State University where they will be made permanently available to future researchers.

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Management Summary and Introduction

- **Management Summary**

The Texas Department of Transportation (TxDOT) is proposing improvements to Farm-to-Market (FM) Road 741 from US Highway (US) 175 to FM 548 in Forney, Kaufman County, Texas (**Attachment 1: Figure 1**). The proposed project extends between the cities of Forney, Mesquite, and Crandall, which includes 8.32 miles (13.39 kilometers) of FM 741 from US 175 to FM 548 in Kaufman County. The existing right-of-way's width typical width is 90 feet (27.4 meters), and the proposed right-of-way width would vary between 120 to 180 feet (36.5 to 54.8 meters). The project's archeological area of potential effects (APE) covers a total of 141.13 acres, including 100.09 acres of existing right-of-way, 40.58 acres of proposed right-of-way, and 0.46 acres of existing easements.

The current FM 741 facility is a two-lane rural undivided roadway with 12-foot-wide (3.6-meter-wide) lanes and 2-foot-wide (0.6-meter-wide) shoulders. The existing right of way width varies from 90 to 180 feet (27.4 to 54.8 meters). Roadside drainage is conveyed through grass-lined ditches and beneath and across the roadway through culverts. Two bridges cross an unnamed tributary to Buffalo Creek, with two undivided 12-foot (3.6-meter) lanes and no shoulders; the existing typical right-of-way at the bridges is 90 feet (27.4 meters).

TxDOT is proposing to reconstruct and widen FM 741 from US 175 to FM 548 in Kaufman County. An additional 12-foot (3.6-meter) travel lane is proposed in each direction as well as a raised median, totaling four lanes with a typical section varying from 140 to 180 feet (42.6 to 54.8 meters) wide from US 175 to FM 2757 and 120 to 153 feet (36.5 to 46.6 meters) wide from FM 2757 to the end of project. No shoulders are proposed, and a 2-foot (0.6-meter) offset would be included for safety reasons. The project would include the replacement of two bridges and a 10-foot (3.0-meter) shared-use path on both sides of the roadway. Twelve-foot (3.6-meter) northbound and/or southbound turn-lanes are proposed at major cross streets. The bridges at the unnamed tributary to Buffalo Creek would be replaced; four 12-foot (3.6-meter) main lanes would be separated by an 18-foot (5.4-meter) median, with 10.5-foot (3.2-meter) shared-use paths along both sides of the bridge. Roadside drainage will be conveyed through a combination of enclosed storm sewers and grass-lined ditches.

The project is owned by TxDOT, a subdivision of the State of Texas, rendering the project subject to the Antiquities Code of Texas. Federal Highway Administration (FHWA) funds and guidance will be utilized for this project (with TxDOT acting on behalf of FHWA), so it is also subject to Section 106 of the National Historic Preservation Act (NHPA), as amended

Texas Antiquities Permit # 30742 was assigned to this project by the Texas Historical Commission (THC). Brett Lang (Project Archeologist) and Floyd Kent of Cox|McLain Environmental Consulting, Inc. (CMEC) now Stantec conducted survey fieldwork in September 2022 under the supervision of Principal Investigator Melissa Green. In all, 59 shovel test units were excavated within the APE. The number of shovel tests and their placement followed guidelines established by the Council of Texas Archeologists (CTA) and approved by the THC in April 2020. Mechanical scraping within two trenches outside of the Mount Pilgrim Cemetery yielded no evidence of burials outside of the known cemetery boundaries.

Two historic-age sites (41KF235 and 41KF236) and one multicomponent site (41KF234) were identified and recorded on or below the surface of the APE. All three sites are recommended ineligible for inclusion in the National Register of Historic Places (NRHP).

No cultural materials were collected during the current survey; therefore, only project records will need to be curated per Texas Administrative Code (TAC) 26.16 and 26.17. Project records will be curated at the Center for Archeological Studies (CAS) at Texas State University where they will be made permanently available to future researchers.

No resources that are known to have potential to be eligible for listing on the NRHP or as a State Antiquities Landmark (SAL) were found during this survey. No evidence was found of preserved deposits with a high degree of integrity, associations with distinctive architectural and material culture styles, rare materials and assemblages, the potential to yield data important to the past in general, or potential attractiveness to relic hunters (13 TAC 26.10). Thus, the portion of the proposed project's APE that has been subjected to survey is highly unlikely to directly or indirectly impact any known or unknown NRHP- or SAL-eligible archeological resources. No further archeological work is recommended within the surveyed portions of the APE prior to construction.

If any unanticipated cultural materials or deposits are found at any stage of clearing, preparation, or construction, work should cease and the appropriate County, TxDOT, and THC personnel should be notified immediately. During evaluation of any unanticipated finds and coordination between TxDOT and THC, clearing, preparation, and/or construction could continue in any other areas along the project corridor.

The project has a low probability of encountering human burials; however, if burials are found, TxDOT, Kaufman County, and THC personnel should be notified immediately, and all requirements of 9 TNRC 191, 13 TAC 2, and 8 Texas Health and Safety Code (THSC) 711 should be followed.

Project Information	
▪ **This survey is:**	☒ the initial survey for this project.
	☐ a continuation of previous survey(s) due to: ☐ access issues and/or ☐ design changes. Identify previous investigation(s): NA
▪ **Report Completion Date:**	10/25/2022
▪ **Date(s) of Survey:**	09/12-15/2022 and 09/29-30/2022
▪ **Archeological Survey Type:**	☐ Reconnaissance ☒ Intensive
▪ **Report Version:**	☒ Draft ☐ Final
▪ **Report Author(s) and Affiliation:**	Brett Lang, MS (Project Archeologist) Cox McLain Environmental Consulting, Inc., now Stantec
▪ **Estimated Percentage of Time that the Principal Investigator was in the Field:**	10%

Area of Potential Effects and Survey Area

- **Area of Potential Effects (APE)**

  The APE is defined to encompass the limits of the existing right-of-way; proposed, and new project right-of-way; and any project-specific locations and utility relocations designated by TxDOT. Note: the APE encompasses the entirety of the project area, regardless of the extent of prior archeological investigations, the particular locations subject to field investigations, or the portion of a project added through a design change. If impacts are not known, worst-case impacts are assumed in defining the APE.

  The 8.32 mile (13.39 kilometer) long APE is located between US 175 and FM 548 in Kaufman County. The proposed right-of-way is 140 to 180 feet (42.6 to 54.8 meters) with depth of impacts at 2 feet (0.6 meters) for typical and up to 35 feet (10.7 meters) at the two bridge replacement locations. The APE for this project is defined as the entire maximum footprint of the project, which covers an area of approximately 141.13 acres, including 100.09 acres of existing right-of-way, 0.46 acres of existing easements, and 40.58 acres of proposed right-of-way.

  See **Attachment 1** for a map of the APE, which is based on the project information attached as **Attachment 2**.

- **No Survey Area**

  All areas of proposed right-of-way within the APE required survey. The existing right-of-way was found to be substantially disturbed by previous roadway, drainage, and utility construction, as well as nearby rural residential development. The No Survey area includes all existing right-of-way and existing easements, covering 100.55 acres.

- **Access Denied Area:**

  Right-of-entry for survey was not granted to 16.04 acres of proposed right-of-way within the overall 40.58-acre APE survey area that fell within HPALM Map Units 1, 2, 4, 5 and 7. All areas for which right-of-entry was granted were subjected to archeological survey.

- **Survey Area:**

  The purpose of the investigation described here was to assess the potential for and nature of archeological deposits within the project footprint (**Attachments 1, 3, 4,** and **5; Figures 1, 2a–c, 3a–j,** and **4a–j**). The APE for this project is defined as the entire maximum footprint of the project, which covers an area of approximately 141.13 acres, including 100.09 acres of existing right-of-way, 0.46 acres of existing easements, and 40.58 acres of proposed right-of-way. The maximum anticipated depth of impacts is expected to be less than 2 feet (0.6 meters) throughout the project, except where bridge pilings and footings may need to be installed up to a maximum depth of 35 feet (10.7 meters) near drainage crossings.

  Within the 40.58-acre survey area, approximately 24.54 acres were surveyed in locations mapped as HPALM Map Units 1, 2, 4, 5 and 7.

Project Setting

- **Natural Setting**

  Topography:

  – The 141.13-acre APE is situated at elevations ranging from approximately 128.0 to 146.3 meters (420 to 480 feet) above mean sea level. The project lies within the Northern Blackland Prairie subregion of the Texas Blackland Prairie ecoregion (Griffith et al. 2010). This subregion is characterized by rolling to nearly level plains underlain by Cretaceous-age interbedded chalks, marls, limestones, and shales. Historic vegetation was dominated by little bluestem, big bluestem, yellow Indiangrass, and tall dropseed with bur oak, Shumard oak, sugar hackberry, elm, ash, eastern cottonwood, and pecan along stream bottoms. Today most of the prairie has been converted to cropland, non-native pasture, and urban expansion (Omernik and Griffith 2013).

    A tributary to Buffalo Creek crosses FM 741 south of its intersection with FM 260. This waterway is classified as an intermittent, seasonally flooded stream (U.S. Fish and Wildlife Service [USFWS] 2022). A few small headwater drainages also occur in the APE.

  Geology:

  The project area is mapped within the undivided Neylandville Formation and Marlbrook Marl of Cretaceous age. Both formations are comprised of calcareous clay though the Neylandville is silty and sandy and the Marlbrook contains variable amounts of silt and glauconite (U.S. Geological Survey [USGS] 2022a).

  Soils:

  Six soils have been mapped in the APE including eroded Altoga silty clay at 3 to 12 percent slopes, eroded Ferris clay at 5 to 12 percent slopes, Ferris-Heiden complex at 2 to 5 percent slopes, Heiden clay at 5 to 8 percent slopes, Houston Black clay at 0 to 1, 1 to 3 and 3 to 5 percent slopes, and frequently flooded Trinity clay at 0 to 1 percent slopes at a tributary to Buffalo Creek (Soil Survey Staff 2022). Details of each soil are listed in Table 1 and are listed in order of their appearance from north to south. All these soils have the potential to contain both prehistoric and historic-age archeological deposits at the surface and near surface (less than 1 meter below ground surface).

Table 1. Soils Within the APE			
Soil Series	**Slope (%)**	**Source and Landform**	**Typical Subsoil depth (cmbs*)**
Altoga silty clay	3–12	Formed in calcareous clayey alluvium derived from mudstone; occur on risers on stream terraces	18
Ferris clay, eroded	5–12	Formed in clayey residuum weathered from calcareous mudstone; occur on backslopes of side slopes of ridges on dissected plains	15
Ferris-Heiden complex	2–5	Ferris – Formed in clayey residuum weathered from calcareous mudstone; occur on backslopes of side slopes of ridges on dissected plains Heiden – Formed in clayey residuum weathered from mudstone; occur on footslopes of base slopes, shoulders of interfluves, and backslopes of side slopes of ridges on dissected plains	Ferris – 25 Heiden – 13
Heiden clay	3–5	Formed in clayey residuum weathered from mudstone; occur on footslopes of base slopes, shoulders of interfluves, and backslopes of side slopes of ridges on dissected plains	13
Houston Black clay	0–1; 1–3; 3–5	Formed in clayey residuum derived from calcareous mudstone of Cretaceous age; occur on interfluves and side slopes on upland ridges and plains on dissected plains	15; 43; 20
Trinity clay; frequently flooded	0–1	Formed in calcareous clayey alluvium derived from mudstone; occur on floodplains on river valleys and large streams on dissected plains	41
*Data source: Soil Survey Staff (2022); *centimeters below surface*			

Hybrid Potential Archeological Liability Map:

The APE is mapped in six Map Units of the Hybrid Potential Archeological Liability Map (HPALM) for the Dallas District (Abbott and Pletka 2014). According to HPALM data (**Attachment 4; Figure 3a–g**), 61.06 percent or 86.18 acres are found in Map Unit 1, which has a low potential for archeological deposits at any depth. This is followed by Map Unit 4 with 28.02 percent or 39.55 acres that contains a moderate potential at shallow (surface or near surface up to 1 meter) depths and a low potential at depths below 1 meter. Map Unit 5 with 7.42 percent of the APE (10.48 acres) has moderate potential at any depth. Map Unit 2 with a low shallow potential and moderate deep potential comes in at 1.82 percent or 2.58 acres. Map Unit 7 contains 1.98 acres (1.40 percent) of high shallow and low deep potential, with the remaining acreage considered to have negligible potential for archeological deposits at any depth.

Historic Land Use:

Historic topographic maps reviewed included those from 1936, 1954, 1956, 1958, 1973, 1974, 2012, 2016, 2019 and 2021. The 1936 General Highway Map, Kaufman County,

Texas shows FM 741 as extant with residences, churches, and schools illustrated along it between Forney and Crandall; the corners of the roadway are all at right angles rather than the gentle curves seen today. The earliest topographic maps available are the 1954 and 1958 Dallas (1:250,000 scale) maps and show that FM 741 in its current configuration but since the scale is so coarse, no individual buildings are mapped. The 1956 Kaufman (1:62,500 scale) map mirrors the 1936 Highway Map and indicates that FM 741 is called Kaufman Road as it exits Forney until it turns south at current FM 2932 (old Kaufman Road) and then has no name attached. By the 1963 Forney South (1;24,000 scale) the road corners have been softened to curves with two pipelines shown crossing the road north of Interstate Highway (IH) 20. The Lower East Fork Lateral Site No. 1 and Lateral No. 2 reservoirs have been created on Buffalo Creek and one of its tributaries near FM 260 yet there is still sparse settlement along the entire APE. At the south end of the APE and its intersection with US 175, US 175 is mapped as a two-lane highway as it enters Crandall. Other than the completion of US 175 as four-lanes through Crandall, no other significant changes are noted on the 1973 Forney South map. The 2021 (1;24,000 scale) map illustrates new development and expansion in the APE in Forney and south of IH 20. No significant changes are noted on subsequent maps (Nationwide Environmental Title Research [NETR] 2022; USGS 2022b).

Historic aerial imagery from 1956, 1961, 1968, 1981, 1995, 2004, 2005, and 2007 through 2020 reveal little change along the roadway until 2018 when residential and some commercial development began in earnest. The 1957 imagery shows the FM 741 is extant and surrounded by plowed and terraced agricultural lands. The roadway shows the right-angle rather than the current gentle curves; these curves first appear on the 1968 imagery. The only major change noted on 1981 imagery is that US 175 has been widened to four lanes and a new interchange with FM 741 is now about 178 meters (585 feet) west of its original intersection with US 175. By the 1995 imagery, some changes along FM 741 with more development is occurring near the north terminus, near the now extant IH 20, and near the Unknown (Mount Pilgrim Cemetery, Crandall Community (Black) Cemetery, and Woodlands Cemetery) Cemetery just north of the south terminus. This development continues to occur swallowing up more long-term agricultural lands along the APE on all subsequent imagery (Google 2022; NETR 2022).

- Land Use:

The vast majority of the proposed APE is located within existing right-of-way, intersections, and driveways associated with FM 741 as well as expanding areas of residential or small commercial development that are extant or currently under construction. Consultation of both historical and modern aerial imagery and topographic maps indicates that the APE has been subjected to modification, including removal of native vegetation, blading/levelling, above- and below-ground utility installation, drainage modification, agricultural practices, residential and commercial development, and roadway installation.

- Vegetation:

Vegetation varied from one location to another with open fields and semi-improved pastures predominantly ankle to knee high prairie grasses and sunflowers with 0 to 70 percent ground visibility. Wooded and riparian settings contained ankle to knee high prairie grasses, poison ivy, greenbrier, elm, cottonwood and other unidentified plants and trees with 0 to 80 percent ground visibility.

- Estimated Ground Surface Visibility:

Variable, but typically 0 to 80 percent.

- **Regional Cultural History:**

The APE lies within the western part of the north central Texas archeological region (Perttula 2004). The standard cultural chronology for the region has changed little in the last three decades; thus, the periods and date ranges established by Peter and McGregor (1988), Prikryl (1990), and Yates and Ferring (1986) still apply (**Table 2**). The general prehistoric framework for North Central Texas is similar to that used in other areas of Texas, and indeed throughout much of North America. The first unequivocal human occupations occur approximately 11,500 radiocarbon years before present (BP), or approximately 13,000 calendar years ago, and most of the prehistoric record is contained within a long Archaic period lasting nearly 8,000 years.

Table 2: Archeological Chronology for North Central Texas

Period	Years Before Present (BP)*
Paleoindian	11,500 – 9,000
Archaic	9,000 – 1,300
Early Archaic	9,000 – 6,000
Middle Archaic	6,000 – 4,000
Late Archaic	4,000 – 1,300
Late Prehistoric	1,300 – 400
Late Prehistoric I	1,300 – 700
Late Prehistoric II	700 – 400
Protohistoric	400 – 200
Historic	200 – 50

Sources: After Peter and McGregor (1988), Prikryl (1990), and Yates and Ferring (1986). * Based on uncalibrated radiocarbon dates, which are typical in Texas archeology (see Perttula 2004:14, Note 1).

Paleoindian Period

The Paleoindian occupation is the least known period in the prehistory of North Central Texas, due primarily to three factors: the light population density of Paleoindian peoples, the great age of the occupation (up to 13,000 calendar years), and taphonomic factors such as severe erosion and deep sedimentation that vary depending on location (Ferring 1989, 2001; Holliday

2004). Although initially seen as narrowly specialized big-game hunters, Paleoindian groups such as Clovis are being reevaluated in light of recent discoveries such as the Aubrey site north of Dallas-Fort Worth. At Aubrey, investigators found evidence of a more balanced, flexible subsistence strategy. The remains of big game such as bison and mammoth were present, but the remains of fish, birds, and other small game were also present (Ferring 2001). Generally, Paleoindian people are thought to have been more mobile than subsequent populations, and to have used lithics and other resources from broad geographic areas.

Archaic Period

Usually divided into three more or less equal parts, the Archaic Period encompasses the bulk of north central Texas prehistory. The Archaic record is clouded by mixed deposits (Hofman et al. 1989; Prikryl 1990) and possible large-scale erosion in the middle of the period (as has been documented farther to the west by Blum et al. [1992]). Still, the available data show that Archaic peoples were more likely than their predecessors to make projectile points and other stone tools out of local raw materials, which may indicate more spatially restricted territories and/or subsistence areas and may reflect seasonal rounds through a specific series of resource-gathering zones (Ferring and Yates 1997; Peter and McGregor 1988). Generally, population is thought to have increased throughout the Archaic Period, perhaps in response to stabilizing climatic conditions.

Late Prehistoric Period

The beginning of the Late Prehistoric Period is typically marked by the appearance of arrow points and ceramics. Aside from the addition of these extremely important technologies, the overall trajectory of subsistence lifeways in the Late Prehistoric is usually thought to represent a continuation of trends seen in the later part of the Archaic, albeit with an even more dramatic focus on very local resources and broad-spectrum foraging (Ferring and Yates 1997). In the latter part of the period (Late Prehistoric II), the picture shifts, and ceramic and lithic evidence indicate links to Plains populations to the north and west (Prikryl 1990).

Protohistoric and Historic Periods

The beginning of the Protohistoric Period is marked by the first appearance of Europeans in Texas: the Spanish explorers, priests, and speculators who began moving into the state from colonies to the south and west in the sixteenth and seventeenth centuries. Although technically historic (i.e., characterized by the use of writing), this earlier phase is often separated from the more-formally designated Historic Period due to the relative infrequency of direct Spanish incursions into North Central Texas, in contrast to the high-profile, early Spanish occupations in south and south-central Texas (Campbell 2003). Even without the missions, military outposts, and other facilities characteristic of the Spanish presence to the south, the effects of trade, disease, and other factors on native populations is still dramatic, and indigenous groups of the Protohistoric Period are little known apart from sporadic finds of European trade goods at native sites (Stephenson 1970).

The last two centuries are considered the Historic Period. In brief, the landscape and material culture of North Central Texas during this time are characterized by the overwhelming dominance of European-derived populations, the expansion of railroads, the discovery and exploitation of petroleum resources, the supplanting of small tenant farming by mechanized agriculture and urban sprawl, and various waves of commercial and industrial development—the most recent example of which is the rise of the service and information economies (Campbell 2003).

- **Previous Investigations and Known Archeological Sites:**

A search of the Texas Archeological Sites Atlas (Atlas) maintained by the Texas Historical Commission (THC) and the Texas Archeological Research Laboratory (TARL) was conducted in order to identify archeological sites, historical markers (Recorded Texas Historic Landmarks), properties or districts listed on the National Register of Historic Places (NRHP), State Antiquities Landmarks (SAL), cemeteries, or other cultural resources that may have been previously recorded in or near the APE, as well as previous surveys undertaken in the area. A larger 1-kilometer (0.62-mile) study area around the APE was also examined **(Attachment 3; Figures 2a-c)**.

According to the Atlas, three archeological sites, 41KF178, 41KF179, and 41KF181, are recorded immediately adjacent to the APE and an additional six are mapped within 1 kilometer of the APE. (Texas Historical Commission [THC] 2022). The sites are summarized below:

- 41KF130: historic-age house site with brick cistern and a metal shed, and 50 diagnostic artifacts including bottle glass, porcelain and whiteware, stoneware, wire nails; located southwest and northwest of APE; considered Undetermined by THC in 2005;
- 41KF131: historic-age house site with brick well located south and west of APE; considered Undetermined by THC in 2005;
- 41KF132: historic-age bell-shaped cistern and purple bottle glass located west of APE; considered Undetermined by THC in 2005;
- 41KF177: large, historic-age dump (possibly multiple components), mixed with modern trash; located west of APE; determined Ineligible by THC in 2019;
- 41KF178: historic-age scatter consisting of bottle glass, tin can, glass marble, brick fragments, barbed wire, and metal; determined Ineligible by THC in 2019 (see Attachment 3; Figure 2a);
- 41KF179: historic-age scatter consisting of bottle glass, whiteware, porcelain, stoneware, brick, and metal; determined Ineligible by THC in 2019 (see Attachment 3; Figure 2b);
- 41KF180: historic-age scatter consisting of window glass, bottle glass, porcelain, whiteware, stoneware, and an iron fragment; located west of the APE; determined Ineligible by THC in 2019;

- 41KF181: historic-age scatter consisting of window glass, bottle glass, ink and milk bottles, whiteware, porcelain, nut and bolt, slate, coal, iron fragments, and brick fragments; determined Ineligible by THC in 2019 (see Attachment 3; Figure 2a);
- 41KF185: historic-age farmstead with bottle glass, brick and metal; located southwest and northwest of APE; recommended Ineligible during 2019 survey (THC 2022).

Three cemeteries are recorded within 1 kilometer of the APE. The nearest cemetery is mapped roughly 58 meters (190 feet) west of the APE near the southern terminus, but actual boundaries are not conclusive. It is labeled "Unknown" on the Atlas map but is also listed as the Mount Pilgrim Cemetery, Crandall Community (Black) Cemetery, and Woodlands Cemetery (THC 2022; see Attachment 3; Figure 2a). According to the Find A Grave website, there may be two separate cemeteries mapped, the Mount Pilgrim Cemetery with 3 interments, all dating between 1966 and 1971 and the Crandall Community (Woodlands) Cemetery with 79 known interments dating from, at least, 1941 and was still being used in 2020 (Ancestry® 2022a and 2022b).

The Blackland Cemetery, also known as the Sanders Cemetery or Blackland-Sanders Cemetery, is located along County Road (CR) 2757 about 415 meters from its intersection with FM 741. Interments date from 1856 to 1983 (Ancestry® 2022c; THC 2022). The Shipley Cemetery is located roughly 287 meters east of FM 741 just south of its intersection with CR 2932. Named the Lone Elm-Shipley Cemetery on the Find A Grave website, there are 32 known burials dating between 1876 and 1905 (Ancestry® 2022d).

In addition to these resources, three cultural resources surveys have been mapped crossing or immediately abutting the APE and two additional surveys occurring within the 1-kilometer review radius (THC 2022). Details of these surveys are listed below with those within the APE highlighted.

- 1981 – Small areal survey conducted by Soils Conservation Service located southwest of the APE southern terminus;
- 2012 – Linear survey conducted by AR Consultants, Inc (ARC) for the Trinity Mainstem pipeline under USACE jurisdiction located west of the APE southern terminus;
- 2016 – Linear survey conducted by Brown and Gay Engineering, Inc. for the Atmos Energy Line Y (30) Phase II pipeline under USACE jurisdiction located crossing the first S-curve near the APE north terminus;
- 2017 – Small areal survey conducted by ARC for the Bluff View Senior Village under U.S. Department of Agriculture Rural Development jurisdiction and located just north of the APE south terminus;
- 2019 – Noncontiguous areal survey locations conducted by ARC for the Heartland Development Tract under USACE jurisdiction and located south of the S-curve extending to FM 2757 in the southern section. This survey recorded sites 41KF178-41KF181 (THC 2022).

- **Evaluation of Project Setting:**

  Generally, the APE exhibits low to moderate potential to contain prehistoric-age archeological materials and moderate to high potential to contain historic-age archeological resources in surficial and shallow contexts, and a low to moderate potential to contain deeply buried prehistoric-age resources. Such deposits are very unlikely to occur within the existing roadway and right-of-way of FM 741 and its intersecting roadways due to widespread disturbances caused by clearing of the right-of-way, construction of the roadway and associated drainage modifications, and installations of both overhead and buried utility lines to service the rural residential development present along the proposed alignment. However, previously undisturbed areas of proposed right-of-way could potentially contain resources eligible for listing on the NRHP or as SALs.

Survey Methods

- **Surveyors:**

  Brett Lang (Project Archeologist) and Floyd Kent

- **Description of Methods:**

The present study was carried out to accomplish these goals:

1. To identify all historic and prehistoric archeological resources located within the APE defined in Chapter 1.
2. To perform a preliminary evaluation of the identified resources' potential for inclusion in the NRHP and/or for designation as a SAL (typically performed concurrently).
3. To evaluate the potential for deeply buried cultural materials and features.
4. To make recommendations about the need for further research concerning the identified resources based on the preliminary NRHP/SAL evaluation, with guidance on methodology and ethics from the THC and CTA.

The pedestrian survey consisted of transects spaced no more than 30 meters (98.4 feet) apart with shovel test units excavated in intervals along each transect no greater than 100 meters (328.1 feet) apart. Shovel tests were excavated within the portions of the APE that did not appear to be heavily disturbed or altered (e.g., utility installations, drainage ditches, paved driveways). All shovel tests were excavated in natural levels to subsoil, natural obstruction, or 100 centimeters (39.4 inches), whichever was encountered first. Excavated matrix was screened through 0.635-centimeter (0.25-inch) hardware cloth, as allowed by moisture and clay content; a high clay content typically required that the removed sediment be crumbled/sorted by hand, trowel, and/or shovel point. Deposits were described using conventional texture classifications and Munsell color designations, and all observations were recorded on standardized shovel test forms. All components of the CTA standards approved in April 2020 were rigorously followed.

Stantec conducted an intensive survey of the APE per Category 7 under 13 TAC 26.15 and using the definitions in 13 TAC 26.3. Field methods and strategies will comply with the requirements of 13 TAC 26.15, as established by the Council of Texas Archeologists (CTA) and approved by the THC in April 2020. This archeological survey included a pedestrian survey of all areas of moderate and high potential in new-right-of-way and easements within the APE and where historic-age structures locations have been identified and would be augmented by excavation of shovel test units within previously undisturbed portions of proposed right-of-way in Map Units 1, 2, 4, 5 and 7 (see Attachment 4 Figure 3a–j).

According to HPALM results, there is a moderate potential for buried deposits at the tributary of Buffalo Creek. Since there is a possibility of deep impacts (e.g., culverts) mechanical trenching was proposed in the new right-of-way where the APE crosses the tributary. At the time

of the survey, it was determined that mechanical trenching was not possible due to the new right-of-way within existing utility corridors, parcels with no access, or dense woods blocked by barbed wired fence lines. Each trench would have been excavated at least 13 feet (4 meters) long and a depth at least 15 feet (4.5 meters), slightly deeper than cultural depths known in the floodplain, using a backhoe with a flat-bladed bucket at least 24 inches (61 centimeters) wide. Trenches would have been excavated in 5-centimeter (1.97-inch) increments; sediment will then be placed in piles to be observed and documented by professional archeologists. At least one five-gallon-bucket's worth of matrix from every third excavated bucket load would have been screened through 0.635-centimeter (0.25-inch) hardware cloth as allowed by moisture and clay content, which may have required that the removed sediment be crumbled/sorted by hand, trowel, and/or shovel point. Trench side walls would have been scraped and analyzed by professional archeologists; profiles will be photographed and described using conventional texture, consistency, and color designations. Following the completion of analysis, trenches would have been backfilled and compacted. Should a trench yield cultural deposits or materials, but there is no space for additional trenching due to right-of-way restraints, a 50-x-50-centimeter or 1-x-1-meter unit would have been excavated off a trench wall to ascertain additional materials or deposits.

In addition, mechanical scraping was recommended at the locations of the Unknown (Mount Pilgrim Cemetery, Crandall Community (Black) Cemetery, and Woodlands Cemetery) Cemetery near the southern terminus of the APE since additional research including oral interviews, deed/title searches, cemetery archival record searches, and historic aerial/map investigation was unable to determine that the cemetery limits do not extend into the APE. The surface was scraped in thin strips (5 to 10 centimeters) to a depth of 210 centimeters (6.8 feet) to look for grave shafts, hardware, and/or human remains that may exist in the APE. If human remains or other evidence of burials had been identified within the project area, the evidence would have been covered and fenced, and TxDOT and THC personnel notified. At that point all requirements of 8 THSC 711 and 13 TAC 2 were followed.

The APE is located on publicly owned land containing the proposed project alignment; therefore, artifacts identified in the positive shovel tests and surface contexts were noted, described, photographed, and returned to their original contexts by archeologists who meet or exceed the Secretary of Interior's qualifications for professional archeologists. Descriptions included, at minimum: artifact dimensions, artifact material type(s), artifact functional class (if apparent), Munsell colors, and provenience. All descriptions were approved in field by the Project Archeologist/Principal Investigator. Following their description, all artifacts were photographed from the maximum number of sides available (e.g., five for an intact bottle) prior to being returned to their original contexts. Additional in-field analysis will depend on particular artifact classes: for example, a historic-age bottle with embossed markings that are not easily photographable would have been sketched or drawn. Unique or diagnostic artifacts were to be bagged and returned to CMEC now Stantec offices for analysis and curation.

Any site recorded during the investigation would have been evaluated for their eligibility for inclusion in the NRHP (36 CFR 800) and for consideration as a SAL using the criteria and guidelines as developed by the National Parks Service Bulletin 15 and the Texas Antiquities Code (9 TNRC 191), respectively. Each site would have been identified by a temporary marker placed on the site. The marker would have had an identifying number in the form of a field site (or FS) designation, followed by a consecutively assigned number that will indicate the order in which the sites were discovered (e.g., FS-01, FS-02, etc.). This number is a temporary field number to be superseded by a formal site trinomial obtained following the completion of fieldwork (see below). CMEC defines an archeological site based on content and extent. When a shovel test yields cultural material, additional shovel tests are excavated in a cruciform pattern at 5-meter (16-foot) intervals around the initial test, until two sterile shovel tests are encountered. A prehistoric site is defined as five or more cultural items (e.g., prehistoric stone tool manufacturing debris of different raw materials, or manufacturing debris in combination with stone tools) or one or more stationary and immovable objects – such as firepits or posthole molds – within a 20-meter (65.6-foot) square; for historic sites, a site is defined as five or more cultural items from at least two material types or artifact classes, or one or more stationary and immovable objects and at least one cultural item within a 20-meter (65.6-foot) square. A site's boundaries are then defined within the extent of positive shovel tests and/or surface remnants.

Conversely, isolated finds of individual artifacts or small groups of similar non-diagnostic artifacts (for example, fewer than three flakes composed of the same material) not meeting the above site definition criteria were recorded as an "Isolated Find" and given an Isolated Find number but not assigned a locus number or considered for listing in the NRHP.

Sites recorded during the investigation were identified by a temporary marker placed on the site. The marker has an identifying number in the form of a Field Site (or FS) number, followed by a consecutively assigned number that indicates the order in which the sites were discovered (e.g., FS-01). This number was a temporary field number to be superseded by a formal site trinomial obtained following the completion of fieldwork. Site designations were applied only to features (whether surface or subsurface) that appeared to represent occupation or activity areas and/or to clusters of artifacts (whether surface or subsurface) with the minimum threshold of two negative contiguous positive shovel test pits excavated in cardinal directions around it.

Stantec personnel kept a complete record of field notes with observations including (but not limited to) identified sites, cultural materials, location markers, contextual integrity, estimated time periods of occupations, vegetation, topography, hydrology, land use, soil exposures, general conditions at the time of the survey, and field techniques employed. The field notes were supplemented by digital photographs.

No artifacts were collected during this survey. All materials (notes, photographs, administrative documents, and other project data) generated from this work will be curated at CAS at Texas State University where they will be made permanently available to future researchers per 13 TAC 26.16–17.

- **Subsurface Probes**

  See **Attachment 5; Figures 4a–j**.

Method	Quantity in Existing ROW	Quantity in Proposed New ROW	Quantity in Proposed New Easements	Total Number per Acre
Shovel Test Pits	0	59	0	2.4
Power Auger Probes	0	0	0	0
Mechanical Trenches/Scrapes	2	0	0	0.05

- **Other Methods:**

  None

- **Collection and Curation:** ☒ NO ☐ YES

- **Comments on Methods:**

  CMEC now Stantec personnel conducted an intensive survey under Texas Antiquities Permit #30742 in September of 2022 to search for previously identified and unidentified archeological sites per 13 TAC 26.15 and using the definitions in 13 TAC 26.3. Field methods complied with the coverage requirements of 13 TAC 26.15, as elaborated by the THC and the CTA in April 2020, as well as applicable TxDOT standards (see **Attachment 5; Figure 4a–j**).

Survey Results

- **Survey Area Description:**

  On September 12 to 15 and 29 to 30, 2022, Stantec conducted an intensive survey consisting of pedestrian walk-over augmented with shovel testing and mechanical trenching along sections of FM 741 from FM 548 to US 175 with higher and low HPALM probability within proposed right-of-way in Kaufman County, Texas (**Attachment 5; Figures 4a–j**). A total of 59 shovel tests were excavated within the proposed right-of-way and three new sites (41KF234, 41KF235 and 41KF236) were recorded. Additionally, two mechanical scrape trenches were excavated within the right-of-way east of Mount Pilgrim Cemetery at the southern end of the APE.

  Portions of the project APE within the existing right-of-way and sections within the proposed right-of-way with access not granted were not surveyed. The areas not surveyed included the northern terminus, and scattered parcels to the east and west of FM 741 extending to the southern terminus (**Attachment 8; Photos 1, 2, 3,** and **4**). Disturbance was common all along the APE route from residential and commercial development, as well as agricultural fields, cattle grazing fields, and existing utility corridors. New residential construction (**Photos 5** and **6**) is rapidly expanding on the east and west sides of FM 741, especially in the northern half of the project APE. Commercial property disturbance was observed more in the northern half of the APE but observed to the south as well (**Photos 7** and **8**). Disturbance from agricultural and cattle grazing land was primarily located in the southern half of the project area where the APE was often wider than the existing right-of-way (**Photos 9, 10,** and **11**). Existing utilities were observed within the areas disturbed by residential, commercial, and agricultural or cattle grazing. However, disturbance was more extreme in certain areas; excessive disturbance from scraping occurred along new residential areas currently under construction and along sections of wider proposed right-of-way, as seen in **Photos 12, 13,** and **14**.

  The sections of proposed right-of-way along the FM 741 roadway for which access had been granted were surveyed. The northernmost section from IH 20 to FM 548 was located primarily in areas of residential and commercial development, but access to parcels in this area was somewhat scattered. Shovel testing occurred on parcels where the existing utility corridors were not evident within the proposed right-of-way, or the APE not disturbed from either residential or commercial construction. A pedestrian survey was conducted along the sections within existing utility corridors or disturbed areas from residential and commercial construction. A total of six shovel tests (BL01 to BL06) was excavated north of IH 20. Shovel tests BL01 to BL03 were located in an improved pasture with 0 to 30 percent ground visibility and waist-high Johnson grass, sunflowers, ironweed, and hackberry observed (**Photos 15** and **16**). Shovel tests BL04 to BL06 were in a well-maintained horse pasture with ankle-high prairie grasses and 0 to 30 percent ground visibility (**Photos 17** and **18**). Due to the proposed right-of-way close to FM 741, some of the parcels with access already were disturbed by existing utilities (**Photos 19** and **20**).

Additionally, the parcel with disturbance from the Bin 741 storage facility was not shovel tested (**Photo 21**). No cultural material or features were observed on the surface or subsurface; **Attachment 9** contains full shovel test results.

The project APE from IH 20 to US 175 featured similar residential expansion and scattered access to areas of proposed right-of-way along the APE. More residential and less commercial development was observed in this area from IH 20 to FM 2757, with new construction of housing and roads underway at the time of the survey. Within the proposed right-of-way, the terrain consisted of woodlands, improved pastures, agricultural fields, and manicured yards. The wooded sections were comprised of bois d'arc, hackberry, willow, oak, honey locust, poison ivy, ironweed, johnson grass, snow-on-the-prairie, and other unidentifiable plants and trees with 0 to 40 percent ground visibility (**Photos 22** and **23**). Improved pastures contained ankle to waist high prairie grasses with 30 to 80 percent ground visibility (**Photos 24** and **25**). A waist-high cornfield and prairie grasses near the southern terminus had 0 to 40 percent ground visibility. Lastly, manicured yards with short ankle high grass and 0 to 20 percent ground visibility was observed (**Photo 26**). Shovel test units excavated in the sections with access to the APE contained sandy clays to compact clay soils. Very dark gray to black (7.5YR3/1 to 10YR2/1) clay from the surface was common throughout the project APE. No cultural material or features outside of the newly recorded 41KF234, 41KF235, and 41KF236 site boundaries were observed. See chart in **Attachment 9** for full shovel test result details.

The drainages along the project APE included a larger intermittent tributary of Buffalo Creek, along with four small, shallow intermittent unnamed drainages. The intermittent tributary of Buffalo Creek north of Bronte Blvd measured 12 to 15 meters (39.3 to 49.2 feet) wide and 4 to 5 meters (13.1 to 16.4 feet) deep (**Photos 27** and **28**). A very shallow drainage by Hometown Boulevard measured 1 meter (3.2 feet) wide and 10 centimeters (3.9 inches) deep on the east side of FM 741 and channelized on the west side (**Photos 29** and **30**). An unnamed channelized drainage south of Bronte Blvd measured 1 to 2 meters (3.2 to 6.5 feet) wide and 0.5 to 1 meter (1.6 to 3.2 feet) deep (**Photos 31** and **32**). The drainage southeast of Griffin Ln was 2 to 3 meters (6.5 to 9.8 feet) wide and 0.5 to 1 meter (1.6 to 3.2 feet) deep (**Photos 33** and **34**). The last small drainage observed was located north of Griffin Ln by the Soil Conservation Service Site 1 Reservoir on the northeast side of FM 741. The drainage measured approximately 0.5 to 1 meter (1.6 to 3.2 feet) wide and 0.5 meters (1.6 feet) deep on the south bank and disturbed from levees on the north bank (**Photos 35** and **36**).

Mechanical Scraping

Mechanical scraping was conducted at the Unknown (Mount Pilgrim Cemetery, Crandall Community [Black]) Cemetery to determine whether the cemetery limits extend into the current APE. The scraping occurred along the fence line immediately east of the marked AT&T buried utilities (**Photo 37**). Two backhoe trenches (BT1 and BT2) were excavated in a

northwest/southeast orientation following the path of FM 741 near the southern terminus of the APE at US 175 (see **Figure 4a**). BT1 measuring 1.4 meters (4.5 feet) wide and 6 meters (19.6 feet) long was the farthest away from the entrance to the cemetery and closest to the more disturbed upslope towards FM 741 (**Photos 38** and **39**). The trench demonstrated friable fill material composed of very dark grayish brown (7.5YR3/1) sandy clay mottled with brown (7.5YR4/3) sandy clay and 10 to 20 percent gravels extending to 50 centimeters overlying mottled reddish brown (5YR5/3) sandy clay with gravels. Calcium carbonate was uncovered in Zone 3 from 58 to 100 centimeters in Zone 3 where very dark grayish brown (7.5YR3/1) mottled clay was overlying mottled dark gray (7.5YR4/1) clay with calcium carbonate to 161 centimeters in Zone 4 and mottled gray (10YR6/1) clay with calcium carbonate in Zone 5 to a depth of 200 centimeters below surface. See table in **Attachment 10** for complete mechanical scraping trench descriptions.

BT2, measuring 1.4 meters (4.5 feet) wide and 7 meters (22.9 feet) long, was located approximately 10 meters (32.8 feet) from the south end of BT1. The trench did not have the same Zone 1 as observed in BT1 (**Photos 40** and **41**), and the transition into Zones 2, 3, 4, and 5 were more gradual compared to the zones in BT1. Zone 1 consisted of dark gray (7.5YR4/1) clay with gravels were from the surface to 35 centimeters. The underlying Zones 2 and 3 extending to 106 centimeters were very dark gray (7.5YR3/1) with calcium carbonate nodules present. Zones 4 and 5 consisted of gray (10YR6/1) clay mottled with yellowish brown (10YR5/6) clay and calcium carbonate and light brownish gray (10YR6/2) clay mottled with strong brown (7.5YR5/6) clay and calcium carbonate terminating at 210 centimeters. The trench was closer to the cemetery entrance and appeared less disturbed compared to BT1 where the slope for the construction of FM 741 was observed. See table in **Attachment 10** for complete trench descriptions.

- **Potential Buffer Zone Description:**

  No buffer zone is proposed; any design changes that expand the archeological APE should be subjected to survey for archeological deposits.

- **Archeological Materials Identified and Archeological Site Description:**

  Site 41KF234

  Site 41KF234, which measures approximately 80 meters (262 feet) southeast/northwest by 8 meters (26 feet) southwest/northeast wide, was situated in an eroded area with 30 to 90 percent ground visibility between a disturbed decorative pond with a fountain and an existing utility corridor along FM 741 (see **Attachments 5, 6,** and **7; Figures 4e, 5a,** and **6a**). The predominately historic artifacts were discovered due to erosion of the vegetation exposing the artifacts on the surface (**Photos 42** and **43**). The slight slope of the site could represent the runoff of the artifacts from a possible farmstead from the past. No historic structures or other

features were observed, and the primary site location was most likely destroyed during the construction of the housing subdivision that is now to the southwest and the pond at the subdivision entrance. The presence of both historic and prehistoric artifacts could be due runoff from a higher ground source. Artifacts from the site included a porcelain rim sherd, blue crockery rim sherd, whiteware base sherd, clear glass body shards, solarized bottle glass shards, milk glass shards, deep blue body glass shards, light blue body glass shards, brown body glass shards, fence staple, at least three fine grained quartzite tertiary flakes, and approximately five tested quartzite cobbles (**Photo 44**). Shovel testing was not conducted as the site was heavily eroded and disturbed with all the artifacts visible on the surface. No further investigation was warranted.

Researching the property deeds of the site area was difficult due to the expansion of the housing subdivision with numerous blocks and lots. The landowner and developer, UST Heartland LP, has had at least three name changes prior to 2005 when it was called Heartland 600 Development Land LP. The name changed to Heartland 1800 Investments Land LP in 2005 and at some point, to the current name, UST Heartland LP. At the time of each name change another lengthy 26 to 51 page deed document was produced. The information that was easier to obtain through the Kaufman County interactive map and land records website was that 41KF234 was within Block 10, Lot 1 during the Phase 9 construction era. However, tracking downing the previous landowners would be complicated due to the many tracts that were created for the project.

Site 41KF235

The site, measuring approximately 46 meters (151 feet) north/south by 13 meters (43 feet), was situated on top of a hill that slopes sharply to the west towards the East Fork Trinity River and slightly to the east (see **Attachments 5, 6,** and **7 Figures 4b, 5b,** and **6b**). The site boundaries represent the current right-of-way and extend further to the west for at least 40 meters (131 feet) based on historic artifacts observed on the surface (**Photos 45** and **46**). No structures were seen but the site was most likely a farmstead from the household use artifacts uncovered. Artifacts uncovered at the site included crockery sherds, whiteware sherds, porcelain sherds, white milk glass shards, aquamarine glass shards, clear glass shards, purple glass shards, 3 cut (square) nails, wire nails, and metal fragments (**Photos 47** and **48**). An estimated timeframe was believed to be from the 1880s to 1950. The late 1880s date was determined from the three square nails that date prior to 1890 (Nelson 1968). A total of seven shovel tests were excavated to include the findings within the original positive BL19 shovel test with five positive for cultural material. No further investigation was warranted. **Table 3** lists the shovel tests results in full detail.

Table 3. 41KF235 Shovel Testing Results			
ST#	Depth (cmbs*)	Description/Notes	Artifacts
BL19	0-18 18-30	Very dark gray (7.5YR3/1) clay Black (10YR2/1) clay	16p square nail, wire nail frag, whiteware shards, metal wire, 2 clear glass shards at 10-18 cmbs
FS02-1	0-10 10-30	Very dark gray (7.5YR3/1) clay Black (10YR2/1) clay	Crockery, whiteware, milk glass shards, 3 wire nails, metal frags, aquamarine, clear glass shards; 0-10 cmbs
FS02-2	0-16 16-30	Very dark gray (7.5YR3/1) clay Black (10YR2/1) clay	N/A
FS02-3	0-40	Black (10YR2/1) sandy clay	N/A
FS02-4	0-30	Very dark gray (7.5YR3/1) clay	Solarized and purple glass shards 0-10 cmbs
FS02-5	0-30	Very dark gray (7.5YR3/1) clay	Clear glass shards, wire nail, crockery sherd; 0-15 cmbs
FS02-6	0-30	Very dark gray (7.5YR3/1) clay	N/A
FS02-7	0-30	Very dark gray (7.5YR3/1) clay	2 square nails from 7-15 cmbs
* cmbs = centimeters below surface			

Property deeds research for site 41KF235 was less complicated and uncovered ownership back to 1922. The present owners Jon and Donna Caps purchased the land in 2015. Records show T.C. and Nora Wharton selling the land to C.S.E. Holland, a trustee for the First Texas Joint Stock Land Bank of Houston in 1922. It was sold in 1943 to Byron Alstot. A link between Byron Alstot and Bettie Jo Venner could not be found but the land is listed in the 2013 deed record shows Ms.Venner as the owner. It was then sold to the Capps in 2015. **Table 4** lists the land deed records in greater detail.

Table 4. Site 41KF235 Deeds Research			
Date	Grantor	Grantee	Volume/Page
10/27/1922	T.C. Wharton and Nora S. Wharton	C.S.E. Holland, Trustee for the First Texas Joint Stock Land Bank of Houston	72/508
05/18/1943	First Texas Joint Stock Land Bank of Houston	Byron Alstot	281/298
05/10/2013	Venner, Bettie Jo	Venner, Larry Byron, Hodges, Beverly Venner, Daniels, Teri Ann Venner; Dickinson, Brenda Gail Venner	4348/79
07/27/2015	Venner, Larry Byron, Hodges, Beverly Venner, Daniels, Teri Ann Venner; Dickinson, Brenda Gail Venner	Capps, Jon and Donna	4837/522
Source: Kaufman County land records and interactive map search			

Site 41KF236

Site 41KF236, which measures 90 meters (295 feet) northeast/southwest by 48 meters (157 feet) northwest/southeast, was partially hidden within a thick wooded area at the FM 741 and Blackland Road intersection on the east side of FM 741 (see **Attachments 5, 6,** and **7; Figures 4c, 5c,** and **6c**). Two standing structures were associated with the site. The first was a deteriorated rectangular barn with metal and wood vertical boards, metal roof cladding, no porch, and a gable roof (**Photos 49** and **50**). The second was a deteriorated rectangular two-car garage with wood vertical board and metal roof cladding nearly covered by vegetation and not visible from the road (**Photo 51**). Both structures were recommended not eligible for listing in the NRHP under Criterion A, B or C based on an earlier architectural history survey. Conducted by Stantec (Campbell 2022). Additionally, two septic tanks each measuring 112 centimeters (44 inches) in diameter were aligned northeast/southwest (**Photo 52**). Southeast of the septic tanks was a section of a concrete slab of unknown size where the house once stood. Scattered around between the barn and concrete slab section was whiteware, crockery, clear glass, and plain red brick. The 1956 aerial shows the house and outbuildings present and looks like they were still standing until the early 2000s. The original construction of the farmstead was not known for sure, but the wire nails suggest a timeframe of sometime after 1900. A total of five shovel tests was excavated within the current right-of-way and all were negative for cultural material. No further investigation was warranted. **Table 4** lists the shovel test results in full detail.

Table 5. 41KF236 Shovel Testing Results

ST#	Depth (cmbs*)	Description/Notes	Artifacts
FS03-1	0-50	Black (7.5YR2.5/1) clay	N/A
FS03-2	0-50	Black (7.5YR2.5/1) clay	N/A
FS03-3	0-50	Black (7.5YR2.5/1) clay	N/A
BL40	0-30	Very dark gray (7.5YR3/1) compact clay	N/A
BL41	0-30	Very dark gray (7.5YR3/1) compact sandy clay	N/A
* cmbs = centimeters below surface			

Property deeds research for site 41KF236 was also less complicated and uncovered ownership back to 1948. The present owner, Lennar Homes of Texas Land & Construction LTD, purchased the land in 2022. Records show S.H. Shipley and his wife Evelyn Shipley sold the land to A.J. Kupper in 1948 who then sold the land to Monty Clayton, et. al. in 1951. As with site 41KF235, a link between Monty Clayton and Sally Brooks Fitzpatrick could not be found but is listed in the 2022 deed record. **Table 6** lists the land deed records in greater detail.

Table 6. Site 41KF236 Deeds Research			
Date	Grantor	Grantee	Volume/Page
11/08/1948	S.H. Shipley and wife Evelyn Shipley	A.J. Kupper	318/440
01/15/1951	A.J. Kupper et ux	Monty Clatyon, et al.	338/456
04/28/1995	Fitzpatrick, Sally Brooks	Fitzpatrick LTD	1166/377
01/25/2022	Fitzpatrick LTD, Fitzpatrick, J Knox	Lennar Homes of Texas Land & Construction LTD	7454/273
Source: Kaufman County land records and interactive map search			

Recommendations

- **Results Valid Within (check all that apply to define the buffer zone):**

No Survey Area (NSA)		Survey Area		Either	
☐	50 feet of NSA	☐	50 feet of survey area	☐	Variable, see map
☒	0.0 feet of NSA	☒	0.0 feet of survey area	See **Figures 4a–g**	

- **The Definition and Evaluation of this Horizontal Buffer Zone Is Based on One or More of the Following Considerations (check all that apply):**

☒	The integrity of the areas has been affected by prior development, modern land use practices, or other disturbances.
☐	The areas are unlikely locations for past human activity.
☐	The survey shows that archeological materials are unlikely to exist in this area.
☒	The survey shows that areas may contain intact archeological sites or the survey results cannot preclude the possibility of such sites.
☐	Other (specify)

- **Archeological Site Evaluations:**

  Three archeological sites were recorded during the survey:
  41KF234: The site is recommended not eligible for NRHP or SAL listing based on lack of integrity due to numerous recent impacts and no further Investigation is warranted.
  41KF235: The site is recommended not eligible for NRHP or SAL listing based on lack of integrity due to recent impacts and no further Investigation is warranted.
  41KF236: The site is recommended not eligible for NRHP or SAL listing based on the sparsity of artifacts on the surface and lack of trash piles due to formal trash removal, features other than the standing structures, negative shovel test results, and use of the land as a residence likely up to the early 2000s when the house structure is no longer extant. Additionally, the standing structures do not have distinctive characteristics of a type or period or were linked to persons or events of historic importance. No further Investigation is warranted.

- **Comments on Evaluations:**

  No further comments.

- **Further Work:**

  The proposed project would have no effect on archeological historic properties and/or State Antiquities Landmarks within the horizontal buffer zone, as specified in the previous subsections. Any design change within this area would not require additional review or

investigation. Design changes that either extend beyond the buffer zone or result in potential impacts deeper than the impacts considered in this report would require additional review. In addition, the following recommendations apply to the APE.

The proposed project would have no effect on archeological historic properties and/or SALs Within the buffer zone, as specified in the previous subsections. Any design change within this area would not require additional review or investigation. Design changes that either extend beyond the buffer zone or result in potential impacts deeper than the impacts considered in this report would require additional review. In addition, the following recommendations apply to the APE.

No further work is recommended as the surveyed areas covered a majority of the new proposed easements and temporary easements where disturbance was minimal. However, all areas of proposed right-of-way or easements that have not been subjected to archeological survey and should be subjected to archeological survey when right-of-entry comes available in the future. This work should include shovel testing of all areas of proposed right-of-way. Further coordination would be required with the THC with respect to this acreage once access becomes available.

- **Justification:**

Within the new proposed easement covered by this survey, and outside of the newly recorded historic-age sites 41KF235, and 41KF236 and multicomponent site 41KF234 (each of which are recommended not eligible for listing on the NRHP or as SALs), no evidence of archeological deposits of any age were encountered on the ground surface or within the vast majority of the 59 shovel test units excavated within the APE. Additionally, the two mechanical scrapes, BT1 and BT2, were negative for cultural material, or evidence of burials outside the boundaries of the Mount Pilgrim Cemetery. It is very unlikely that construction within the portion of the proposed project footprint subjected to survey would directly or indirectly impact any known or yet-unknown archeological resources with the potential to be eligible for listing on the NRHP or as a SAL.

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Attachments

Attachment 1 – Map showing horizontal extent of APE, including existing ROW and proposed ROW/new easements

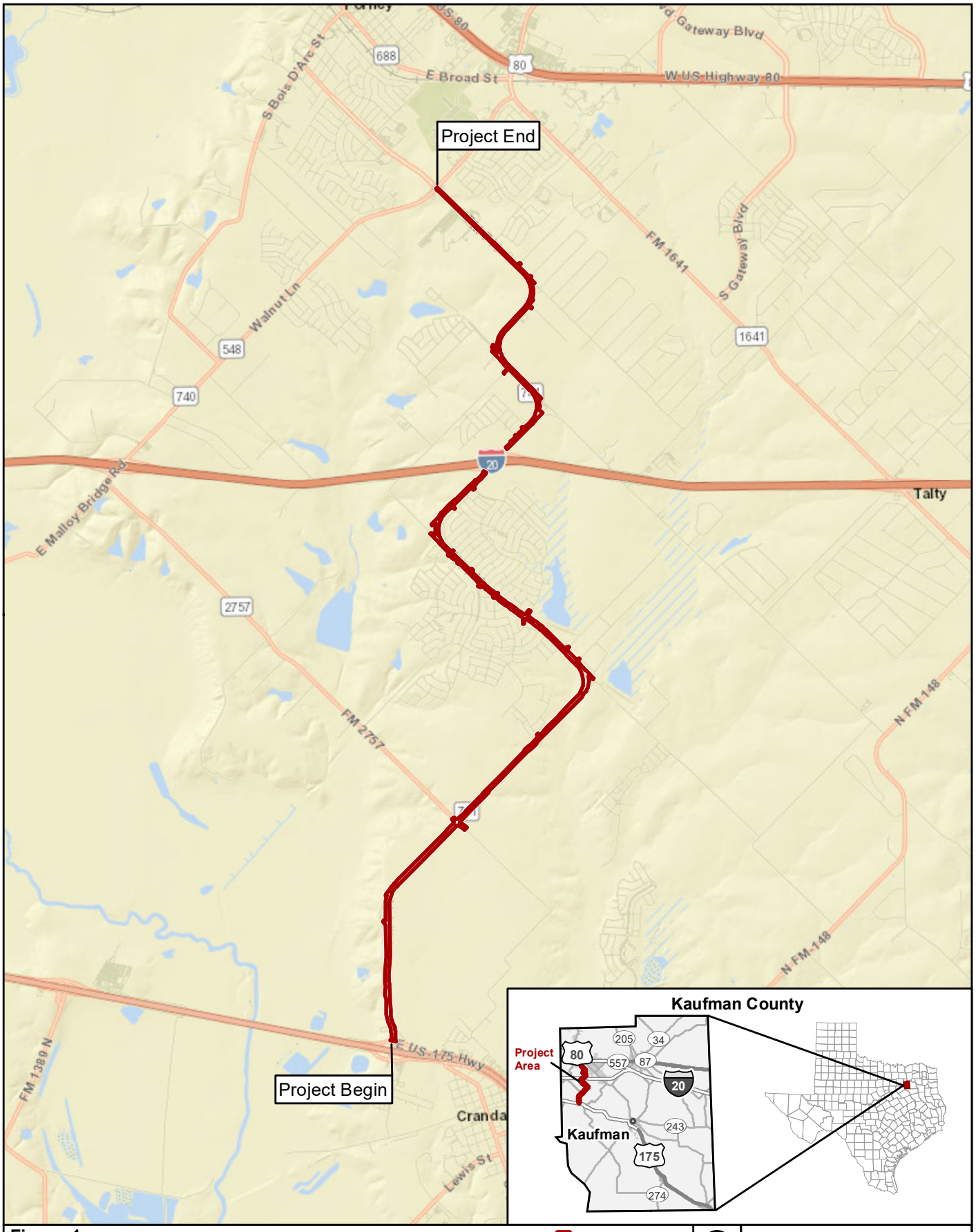

Figure 1.
Project Location (Road Base)

Project Location

CSJ: 1092-01-021

0 1 Mile
0 1.5 km

1 in = 1 mile
Scale: 1:63,360
Date: 3/23/2022

FM 741

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Attachment 2– Project information

The Texas Department of Transportation (TxDOT) is proposing improvements to Farm-to-Market (FM) Road 741 from US Highway (US) 175 to FM 548 in Forney, Kaufman County, Texas (**Figure 1**). The proposed project includes 8.32 miles of FM 741 from US 175 to FM 548 in Kaufman County. The proposed project is located within the cities of Forney, Mesquite, and Crandall. The existing right of way width typical width is 90 feet. The project is located on 100.09 acres of existing right-of-way and proposes to acquire approximately 40.58 acres of new right-of-way with 0.46 acres of existing easements. The proposed ROW width would vary between 120 to 180 feet (36.5 to 54.8 meters).

The current FM 741 facility is a two-lane rural undivided roadway with 12 feet (3.6 meter) wide lanes and 2-foot (0.6 meter) wide shoulders. The existing right of way width varies from 90 to 180 feet (27.4 to 54.8 meter). Roadside drainage is conveyed through grass-lined ditches and beneath and across the roadway through culverts. Two bridges cross an unnamed tributary to Buffalo Creek, with two undivided 12-foot (3.6 meters) lanes and no shoulders; the existing typical ROW at the bridges is 90 feet (27.4 meters).

TxDOT is proposing to reconstruct and widen FM 741 from US 175 to FM 548 in Kaufman County. An additional 12-foot (3.6 meter) travel lane is proposed in each direction as well as a raised median, totaling four lanes with a typical section varying from 140 to 180-feet (42.6 to 54.8 meters) wide from US 175 to FM 2757 and 120 to 153-feet (36.5 to 436.6 meters) wide from FM 2757 to the end of project. No shoulders are proposed, and a 2-foot offset would be included for safety reasons. The project would include the replacement of two bridges and a 10-foot (3.0 meter) shared-use path on both sides of the roadway. Twelve-foot northbound and/or southbound turn-lanes are proposed at major cross streets. The bridges at the unnamed tributary to Buffalo Creek would be replaced; four 12-foot (3.6 meter) main lanes would be separated by an 18-foot (5.4 meter) median, with 10.5-foot (3.2 meter) shared-use paths along both sides of the bridge. Roadside drainage will be conveyed through a combination of enclosed storm sewers and grass-lined ditches.

Attachment 3 – Location of Archeological APE - Figures 2a–c

Attachment 4 – HPALM Map - Figures 3a–j

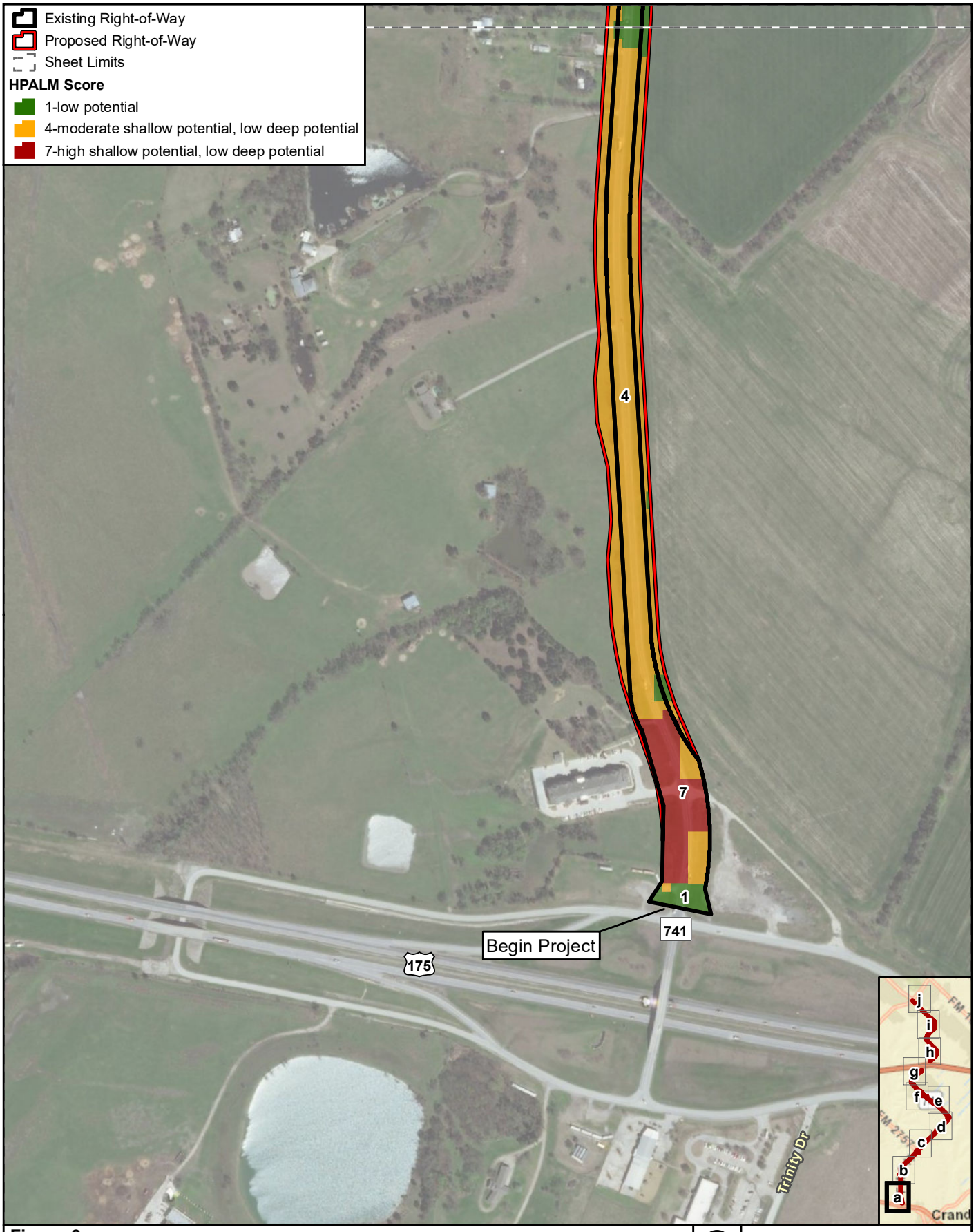

Figure 3a.
HPALM Map

FM 741

Data Source: TxDOT (2014)
Aerial Source: Maxar (2021)

CSJ: 1092-01-021

0 500 Feet
0 100 Meters

1 in = 500 feet
Scale: 1:6,000
Date: 3/24/2022

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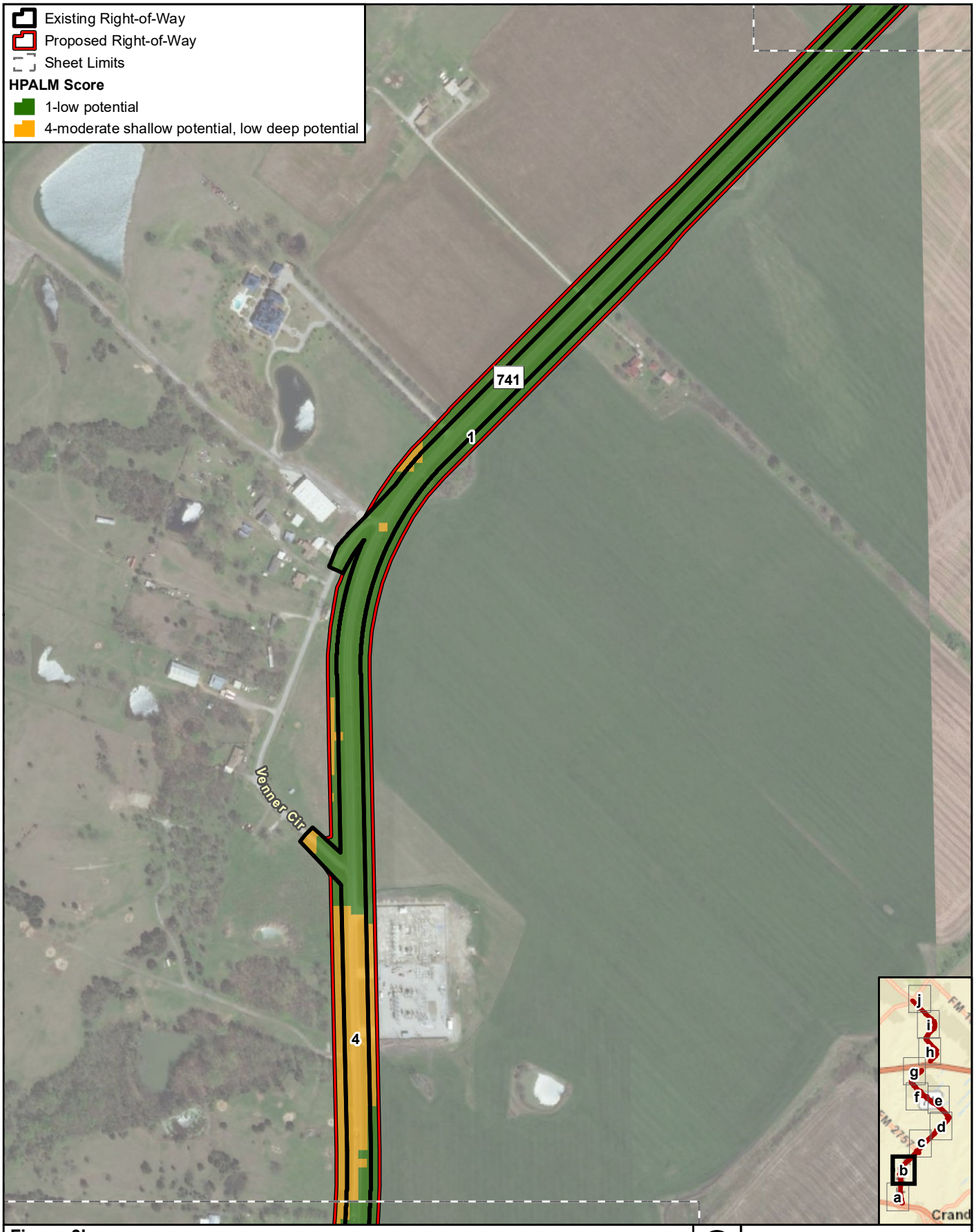

Figure 3b.
HPALM Map

FM 741

Data Source: TxDOT (2014)
Aerial Source: Maxar (2021)

CSJ: 1092-01-021

0 500 Feet
0 100 Meters

1 in = 500 feet
Scale: 1:6,000
Date: 3/24/2022

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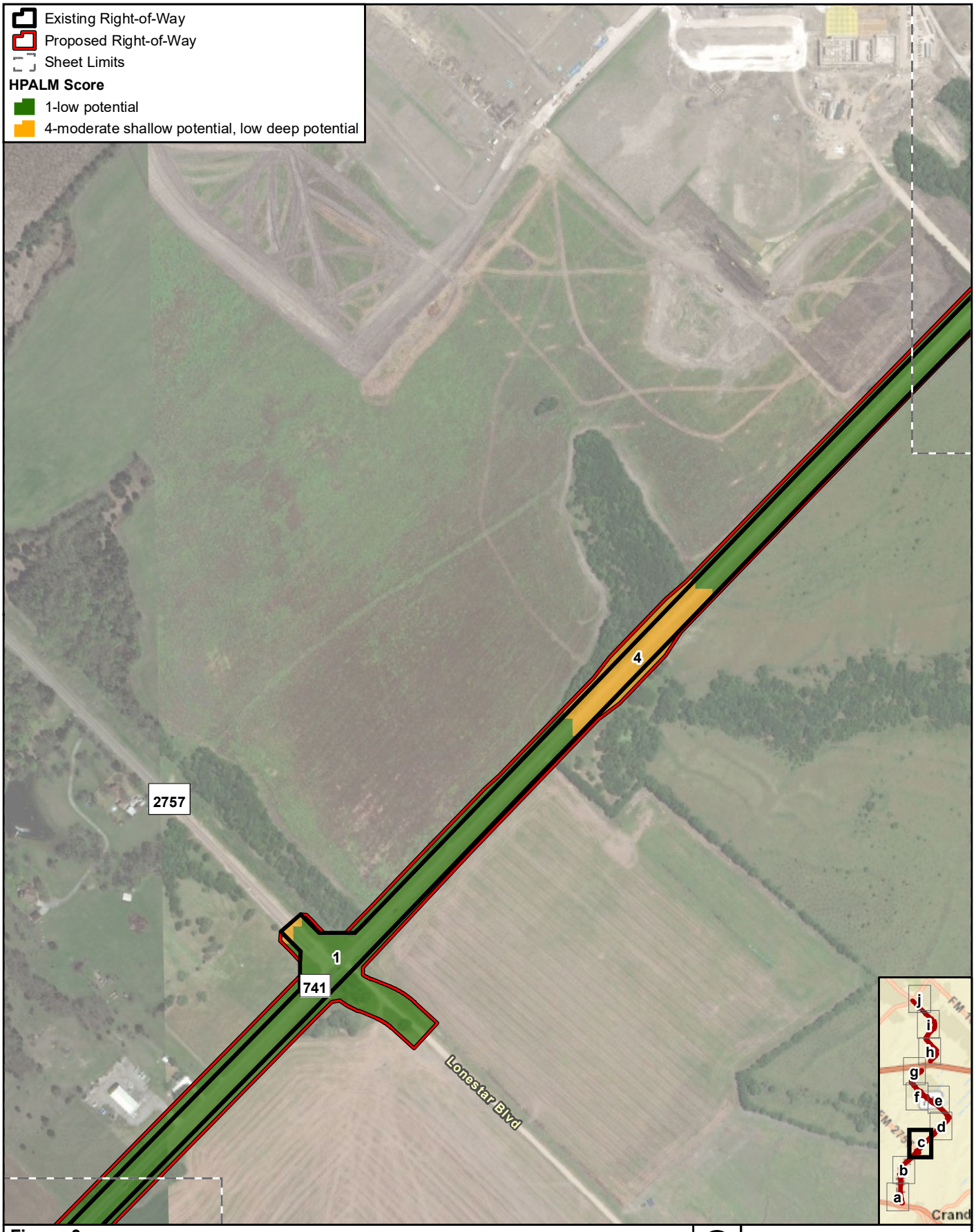

Figure 3c.
HPALM Map

FM 741

Data Source: TxDOT (2014)
Aerial Source: Maxar (2021)

CSJ: 1092-01-021

0 500 Feet
0 100 Meters

1 in = 500 feet
Scale: 1:6,000
Date: 3/24/2022

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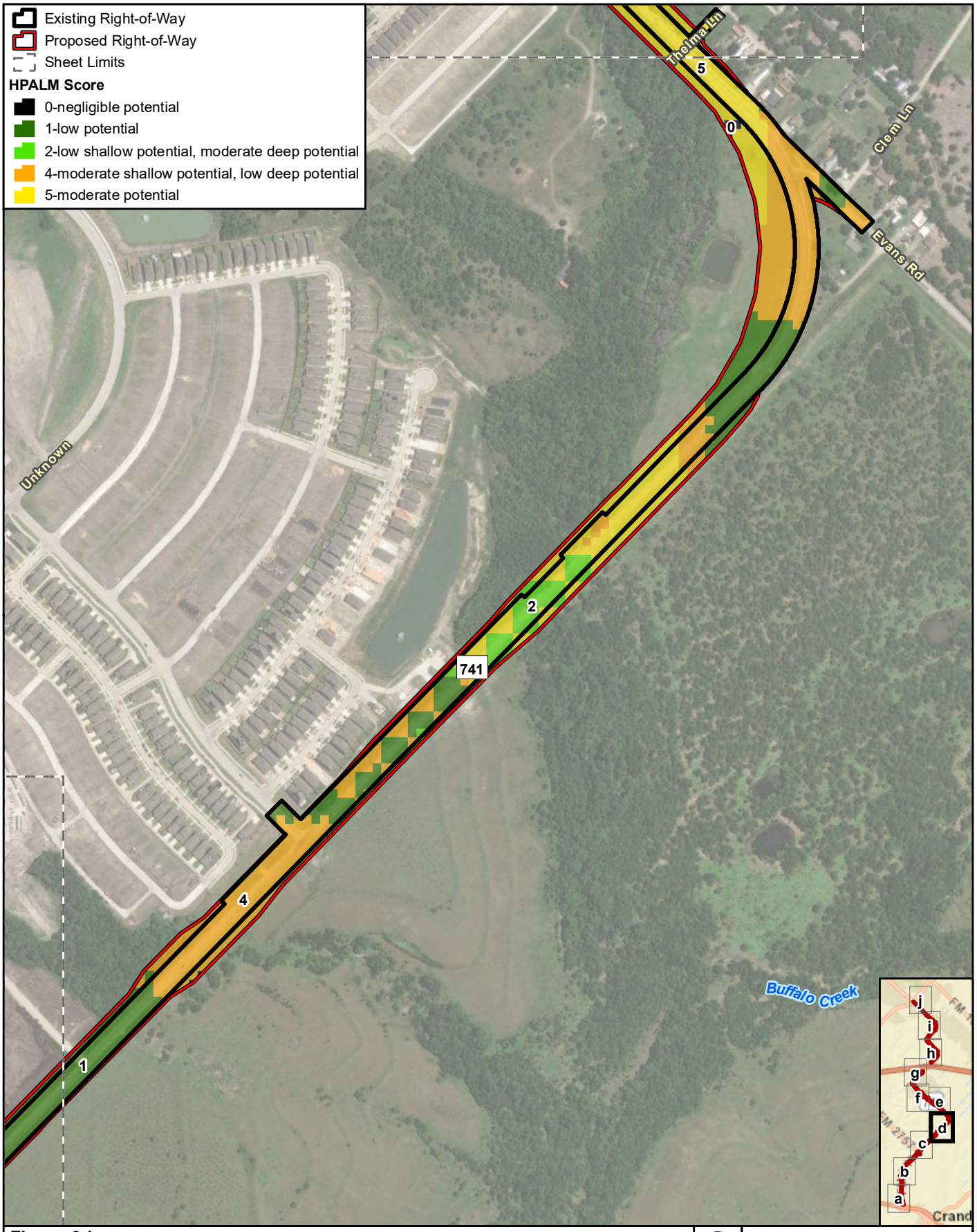

Figure 3d.
HPALM Map

FM 741

Data Source: TxDOT (2014)
Aerial Source: Maxar (2021)

CSJ: 1092-01-021

0 500 Feet
0 100 Meters

1 in = 500 feet
Scale: 1:6,000
Date: 3/24/2022

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Figure 3e.
HPALM Map

FM 741

Data Source: TxDOT (2014)
Aerial Source: Maxar (2021)

CSJ: 1092-01-021

0 500 Feet
0 100 Meters

1 in = 500 feet
Scale: 1:6,000
Date: 3/24/2022

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Figure 3f.
HPALM Map

FM 741

Data Source: TxDOT (2014)
Aerial Source: Maxar (2021)

CSJ: 1092-01-021

0 500 Feet
0 100 Meters

1 in = 500 feet
Scale: 1:6,000
Date: 3/24/2022

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Figure 3g.
HPALM Map

CSJ: 1092-01-021

1 in = 500 feet
Scale: 1:6,000
Date: 3/24/2022

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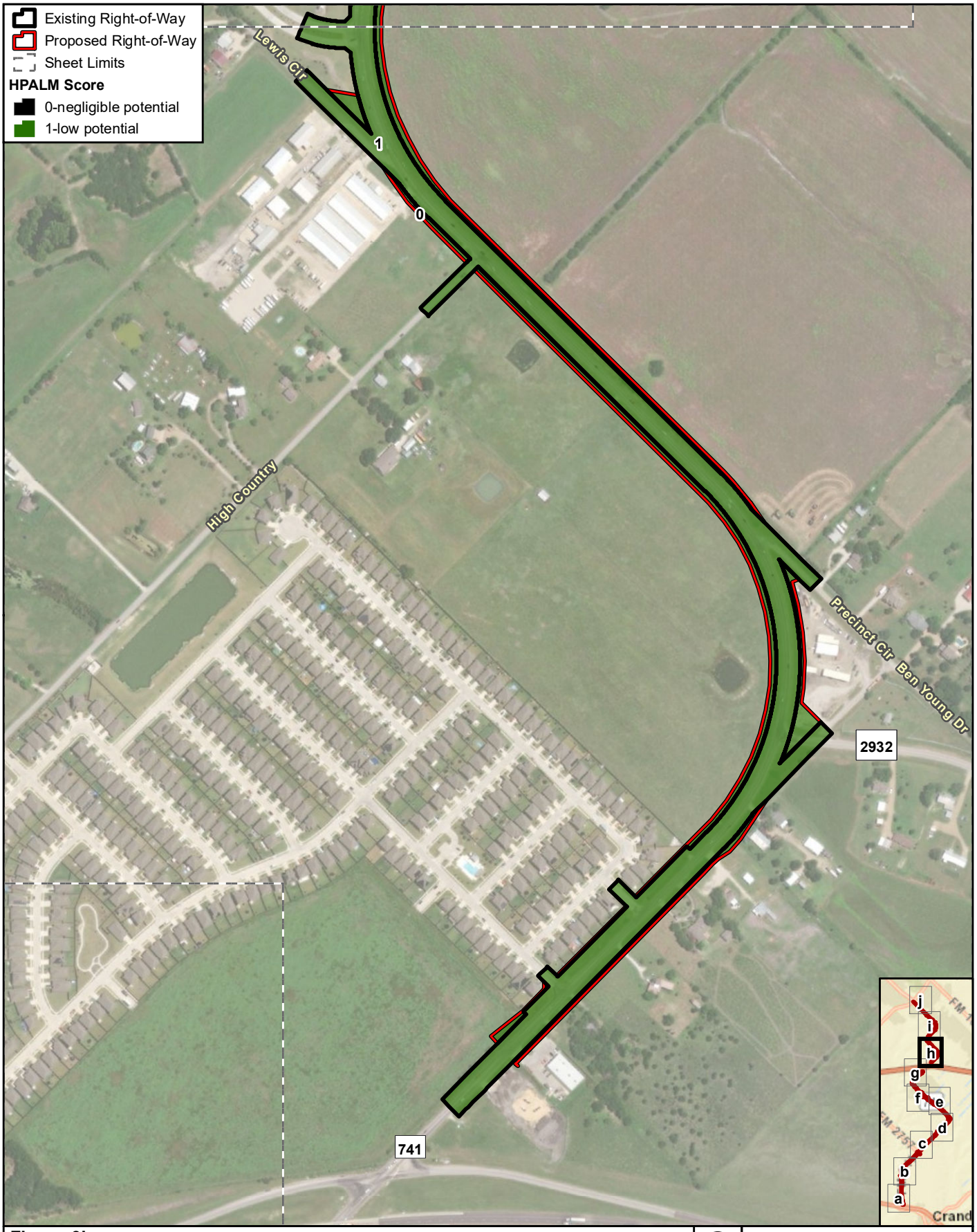

Figure 3h.
HPALM Map

FM 741

Data Source: TxDOT (2014)
Aerial Source: Maxar (2021)

CSJ: 1092-01-021

0 500 Feet
0 100 Meters

1 in = 500 feet
Scale: 1:6,000
Date: 3/24/2022

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Figure 3i.
HPALM Map

FM 741

Data Source: TxDOT (2014)
Aerial Source: Maxar (2021)

CSJ: 1092-01-021

0 500 Feet
0 100 Meters

1 in = 500 feet
Scale: 1:6,000
Date: 3/24/2022

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Figure 3j.
HPALM Map

FM 741

Data Source: TxDOT (2014)
Aerial Source: Maxar (2021)

CSJ: 1092-01-021

0 500 Feet
0 100 Meters

1 in = 500 feet
Scale: 1:6,000
Date: 3/24/2022

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Attachment 5 – Survey Results - Figures 4a–j

Attachment 6 – Site Location Maps - Figures 5a–c

Attachment 7 – Site Maps - Figures 6a–c

Attachment 8 – Project Photos

Photo 1. Northern terminus of the APE from the east side of the road that was not surveyed; view southeast.

Photo 2. Northern terminus of the APE towards FM 548 that was not surveyed; view north.

Photo 3. Dirt road disturbance in an area that was not surveyed; view northeast.

Photo 4. No survey area at the southern terminus of the APE; view south.

Photo 5. Residential disturbance by Bronte Blvd; view northeast.

Photo 6. Residential and drainage ditch disturbance on County View Lane; view northwest.

Photo 7. Commercial disturbance at the Bin 741 storage facility; view west.

Photo 8. Commercial disturbance by the FM 2932 intersection; view southeast.

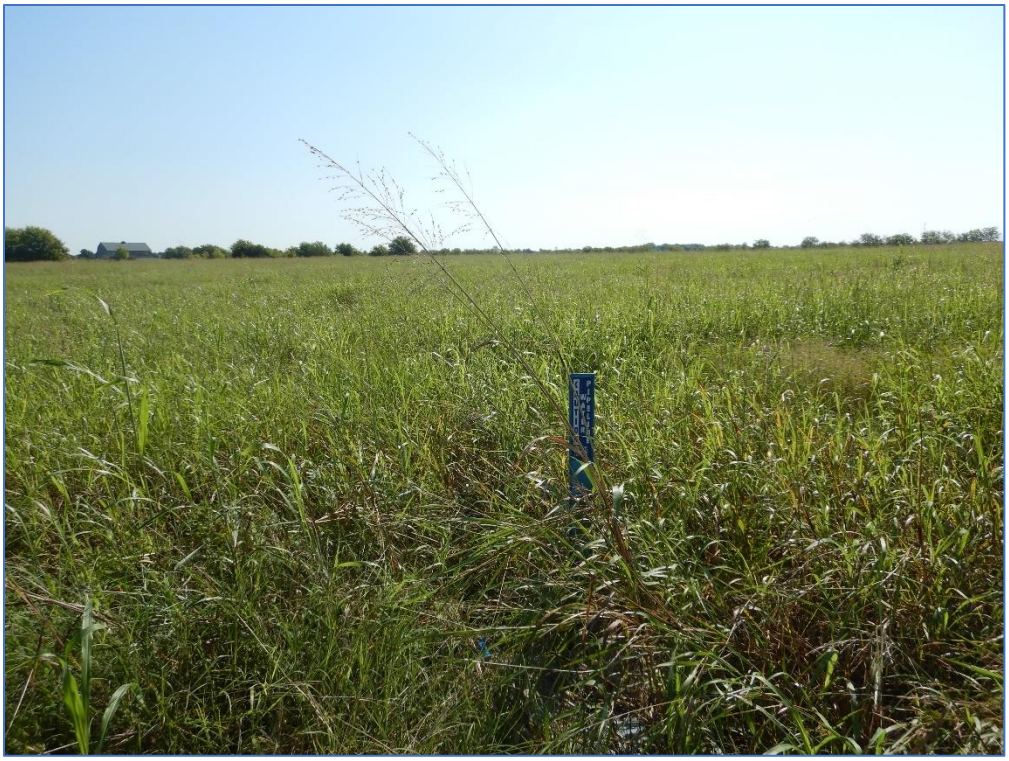

Photo 9. Agricultural field disturbance by shovel test BL02; view east.

Photo 10. View of cattle grazing and water line disturbance; view northwest.

Photo 11. Disturbance from buried utilities by Evans Road intersection; view southwest.

Photo 12. Waterline disturbance in ROW by Griffin Lane; view northwest.

Photo 13. New residential area disturbance; view northeast.

Photo 14. Waterline disturbance on the east side of the road southwest of the Evans Road intersection; view northeast.

Photo 15. Improved pasture by shovel test BL01; view south.

Photo 16. Improved pasture in SBS Development parcel; view southeast.

Photo 17. Cleared and mowed parcel by shovel test BL04; view northwest.

Photo 18. Manicured horse pasture by shovel test BL04; view southwest.

Photo 19. Disturbance from existing utilities within the ROW by Precinct Circle; view northwest.

Photo 20. Water line disturbance in ROW by Precinct Circle; view northwest.

Photo 21. Disturbed parcel by Bin 741 Storage; view west.

Photo 22. Wooded area by shovel test BL07; view southwest.

Photo 23. Wooded area by shovel test BL09; view southeast.

Photo 24. Manicured cattle grazing land by shovel test BL14; view southeast.

Photo 25. Improved pasture by shovel test BL14; view north.

Photo 26. Manicured front yard with ankle high grasses by shovel test BL07; view northeast.

Photo 27. Tributary of Buffalo Creek on east side of FM 741; view north.

Photo 28. Tributary of Buffalo Creek on east side of FM 741; view south.

Photo 29. Shallow drainage on east side of FM 741 by Hometown Blvd; view southwest.

Photo 30. Reworked drainage on west side of FM 741 by Hometown Blvd; view northwest.

Photo 31. Channelized drainage on east side of FM 741 by Bronte Blvd; view northwest.

Photo 32. Channelized drainage on west side of FM 741 by Bronte Blvd; view northwest.

Photo 33. Drainage by Griffin Lane on the east side of FM 741; view north.

Photo 34. Drainage by Griffith Lane on the west side of FM 741; view south.

Photo 35. South bank of small drainage north of Griffin Lane; view northeast.

Photo 36. Disturbance from levees on north bank of drainage north of Griffin Lane; view southeast.

Photo 37. ROW prior to trenching showing the marked AT&T lines; view north.

Photo 38. View of BT1 from the north end; view south.

Photo 39. West wall profile of BT1 with scale; view west.

Photo 40. View of BT 2 from the south end; view north

Photo 41. East wall profile of BT2 with scale; view east.

Photo 42. Site 41KF234 from the center of the site showing the eroded slope; view northwest.

Photo 43. Site 41KF234 from the center of the site; view southeast.

Photo 44. Artifacts on the surface at site 41KF234; view northeast and down.

Photo 45. Site 41KF235 from the center showing the cattle pasture; view south.

Photo 46. Site 41KF235 from the center showing cattle fences; view north.

Photo 47. Artifacts uncovered in shovel test BL19 at site 41KF235; view north and down.

Photo 48. Artifacts uncovered in shovel test FS02-1 at 41KF235; view north and down.

Photo 49. Front view of barn at site 41KF236; view southwest.

Photo 50. Side view of the barn at site 41KF236 from FM 741; view southeast.

Photo 51. Front view of two car garage at site 41KF236; view northeast.

Photo 52. Concrete septic tanks at site 41KF236; view north.

Attachment 9 – Shovel Test Results Table

Shovel Test Results Table			
ST#	Depth (cmbs*)	Description/Notes	Artifacts
BL01	0-25 25-40	Very dark gray (7.5YR3/1) clay Dark gray (7.5YR4/1) clay with 1-5% caliche	N/A
BL02	0-50	Dark gray (7.5YR4/1) clay with 1-5% caliche	N/A
BL03	0-25 25-30	Very dark gray (7.5YR3/1) sandy clay with 1-5% angular gravels Very dark gray (7.5YR3/1) sandy clay with modern trash at 5-20 cmbs	N/A
BL04	0-20 20-40	Very dark gray (7.5YR3/1) clay Dark gray (7.5YR4/1) clay mottled with 5-20% brown (7.5YR5/2) clay	N/A
BL05	0-20 20-40	Very dark gray (7.5YR3/1) clay Dark gray (7.5YR4/1) clay mottled with 5-20% brown (7.5YR5/2) clay	N/A
BL06	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL07	0-30	Very dark gray (7.5YR3/1) compact clay	N/A
BL08	0-50	Very dark gray (10YR3/1) clay with 1-5% caliche	N/A
BL09	0-25 25-40	Dark gray (7.5YR4/1) silty clay Gray (7.5YR5/1) silty clay	N/A
BL10	0-25 25-40	Very dark gray (7.5YR3/1) clay Very dark brown (10YR2/2) clay	N/A
BL11	0-30	Very dark gray (7.5YR3/1) compact clay	N/A
BL12	0-25 25-40	Very dark gray (7.5YR3/1) clay Very dark brown (10YR2/2) clay	N/A
BL13	0-40	Very dark brown (10YR2/2) compact clay	N/A
BL14	0-40	Very dark brown (10YR2/2) compact clay	N/A
BL15	0-40	Very dark brown (10YR2/2) compact clay	N/A
BL16	0-40	Very dark brown (10YR2/2) compact clay	N/A
BL17	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL18	0-50	Black (10YR2/1) clay with modern trash at 8 cmbs	N/A
BL19	0-50	Very dark gray (7.5YR3/1) clay	16p square nail, cut nail frag, 2 clear glass shards, metal wire at 10-18 cmbs
BL20	0-50	Very dark gray (7.5YR3/1) silty clay	N/A

BL21	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL22	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL23	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL24	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL25	0-35 35-45	Very dark gray (7.5YR3/1) clay Dark gray (7.5YR4/1) clay	N/A
BL26	0-30 30-40	Very dark gray (7.5YR3/1) clay Black (7.5YR2.5/1) clay	N/A
BL27	0-30 30-40	Very dark gray (7.5YR3/1) clay Black (7.5YR2.5/1) clay	N/A
BL28	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL29	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL30	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL31	0-30 30-40	Very dark gray (7.5YR3/1) clay Dark gray (7.5YR4/1) clay	N/A
BL32	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL33	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL34	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL35	0-30	Very dark gray (7.5YR3/1) compact clay	N/A
BL36	0-15 15-30	Black (7.5YR2.5/1) clay Dark gray (7.5YR4/1) clay	N/A
BL37	0-40	Black (7.5YR2.5/1) compact clay	N/A
BL38	0-40	Very dark gray (7.5YR3/1) compact clay	N/A
BL39	0-40	Very dark gray (7.5YR3/1) compact clay	N/A
BL40	0-30	Very dark gray (7.5YR3/1) compact clay	N/A
BL41	0-30	Very dark gray (10YR3/1) compact sandy clay	N/A
BL42	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL43	0-50	Very dark gray (7.5YR3/1) clay	N/A
BL44	0-30 30+	Very dark gray (7.5YR3/1) sandy clay Roots	N/A
BL45	0-30 30+	Very dark gray (7.5YR3/1) sandy clay Roots	N/A
BL46	0-15 15-30	Very dark gray (7.5YR3/1) clay Very dark gray (10YR3/1) clay	N/A
BL47	0-50	Black (10YR2/1) sandy clay	N/A
BL48	0-50	Black (10YR2/1) sandy clay	N/A
BL49	0-40	Very dark gray (10YR3/1) compact sandy clay	N/A
* cmbs = centimeters below surface			

Attachment 10 – Mechanical Scraping Results Table

Mechanical Scraping Results Table			
Profile Wall	Depth (cmbs)*	Depth (ftbs)**	Description
Trench 1 – 6 m long, 1.4 m wide			
E	0-50	0-1.6	Very dark gray (7.5YR3/1) sandy clay with 30% brown (7.5YR4/3) sandy clay and 10-20% pea to baseball sized rounded gravels; fill material; common fine to medium roots; weak, subangular blocky structure; clear and wavy horizon
	50-58	1.6-1.9	Reddish brown (5YR5/3) sandy clay mottled with 25% very dark gray (7.5YR3/1) clay and 10% pea sized rounded gravels; no roots; weak, subangular blocky structure; abrupt and wavy horizon
	58-100	1.9-3.2	Very dark gray (7.5YR3/1) clay with 2-3% calcium carbonate; very few fine roots; strong, subangular blocky structure; clear and wavy horizon
	100-161	3.2-5.2	Dark gray (7.5YR4/1) clay mottled with 20% very dark gray (7.5YR3/1) clay and 5-10% calcium carbonate; no roots; moderate, subangular blocky structure; clear and smooth horizon
	161-200	5.2-6.5	Gray (10YR6/1) clay mottled with 15% gray (7.5YR5/1) clay and 10-15% calcium carbonate; no roots; moderate subangular blocky structure
Trench 1 – 6 m long, 1.4 m wide			
W	0-35	0-1.1	Very dark gray (7.5YR3/1) sandy clay with 30% brown (7.5YR4/3) sandy clay and 10-20% pea to baseball sized rounded gravels; fill material; common fine to medium roots; weak, subangular blocky structure; clear and wavy horizon
	35-40	1.1-1.3	Reddish brown (5YR5/3) sandy clay/clay mottled with 25% very dark gray (7.5YR3/1) clay and 10% pea sized rounded gravels; no roots; weak, subangular blocky structure; abrupt and wavy horizon
	40-78	1.3-2.5	Very dark gray (7.5YR3/1) clay with 2-3% calcium carbonate; very few fine roots; strong, subangular blocky structure; clear and wavy horizon
	78-160	2.5-5.2	Dark gray (7.5YR4/1) clay mottled with 20% very dark gray (7.5YR3/1) clay and 5-10% calcium carbonate; no roots; moderate, subangular blocky structure; clear and smooth horizon
	160-200	5.2-6.5	Gray (10YR6/1) clay mottled with 15% gray (7.5YR5/1) clay, 10% yellowish brown (10YR5/6) clay and 10-15% calcium carbonate; no roots; moderate subangular blocky structure
Trench 2 – 7 m long, 1.4 m wide			
E	0-35	0-1.1	Dark gray (7.5YR4/1) clay with 30% pea to golf ball sized rounded gravels; many fine to coarse roots; weak, subangular blocky structure; clear and smooth horizon
	35-53	1.1-1.7	Very dark gray (7.5YR3/1) clay with 1-3% calcium carbonate; very few fine roots; moderate subangular blocky structure; clear and smooth horizon
	53-106	1.7-3.4	Very dark gray (7.5YR3/1) clay with 2-5% calcium carbonate; no roots; moderate subangular blocky structure; diffuse and smooth horizon
	106-158	3.4-5.1	

Mechanical Scraping Results Table			
Profile Wall	Depth (cmbs)*	Depth (ftbs)**	Description
	158-210	5.1-6.8	Gray (10YR6/1) clay mottled with 20% yellowish brown (10YR5/6) clay and 5-10% calcium carbonate; no roots; moderate subangular blocky structure; diffuse and smooth horizon Light brownish gray (10YR6/2) clay mottled with 25% strong brown (7.5YR5/6) clay and 5-10% calcium carbonate; no roots; moderate subangular blocky structure
Trench 2 – 7 m long, 1.4 m wide			
W	0-35	0-1.1	Dark gray (7.5YR4/1) clay with 30% pea to golf ball sized rounded gravels; many fine to coarse roots; weak, subangular blocky structure; clear and smooth horizon
	35-53	1.1-1.7	Very dark gray (7.5YR3/1) clay with 1-3% calcium carbonate; very few fine roots; moderate subangular blocky structure; clear and smooth horizon
	53-106	1.7-3.4	Very dark gray (7.5YR3/1) clay with 2-5% calcium carbonate; no roots; moderate subangular blocky structure; diffuse and smooth horizon
	106-158	3.4-5.1	Gray (10YR6/1) clay mottled with 20% yellowish brown (10YR5/6) clay and 5-10% calcium carbonate; no roots; moderate subangular blocky structure; diffuse and smooth horizon
	158-210	5.1-6.8	Light brownish gray (10YR6/2) clay mottled with 25% strong brown (7.5YR5/6) clay and 5-10% calcium carbonate; no roots; moderate subangular blocky structure
* Centimeters below surface; **Feet below surface			

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

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Irving, Texas, 75062