Appendix B

Technical Memoranda and Reports

Technical memoranda and reports were prepared as independent documents to support the preparation of the Final Environmental Impact Statement (FEIS) for the Cotton Belt Corridor Regional Rail Project. Information from these documents was incorporated into the FEIS to provide information on existing conditions, and in some cases assess potential impacts to the resources. Information contained in the FEIS is the most current and supersedes information in the technical memoranda and reports.
B-6

Archeological Resource Survey
Archeological Resource Survey

Cotton Belt Corridor Regional Rail

FINAL

Tarrant, Dallas, and Collin Counties, Texas
November 27, 2017

This Report was Prepared for DART
General Planning Consultant Six Managed by HDR
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ABSTRACT

In May, June, and September of 2017, AmaTerra Environmental, Inc. (AmaTerra) conducted an archeological resource survey of a 26.2-mile segment of Cotton Belt railroad and 5.9 miles of proposed new rail alignment associated with Dallas Area Rapid Transit’s (DART’s) Cotton Belt Corridor Project in Tarrant, Dallas, and Collin counties, Texas. A total combined area of 173 acres was surveyed during field investigations. The project area includes improvements within the existing Cotton Belt right-of-way (ROW), two new rail loops, 11 new station locations, one new parking facility, and one new storage facility. The project is sponsored by DART with shared funding and regulatory oversight from the Federal Transit Authority (FTA), necessitating compliance with the Antiquities Code of Texas (ACT) and requiring consultation under Section 106 of the National Historic Preservation Act (Section 106).

Archeological investigations, conducted under Texas Antiquities Permit No. 7996, consisted of a pedestrian survey, manual excavation of 154 shovel tests, and excavation of 22 backhoe trenches within the Area of Potential Effect (APE). The existing rail right-of-way (ROW) was found to be entirely disturbed and bridge replacements are unlikely to impact undocumented archeological sites. Therefore, only new rail, station, and support facility ROW were subject to intensive survey.

Three newly recorded archeological sites were discovered in DART ROW. Site 41COL291, a railroad section foreman’s house most likely constructed by the St. Louis, Arkansas, and Texas Railway in the 1880s, was discovered within the previous proposed Plano 12th Street Station footprint. The site consists of apparently intact deposits along with stacked in-place creosote planks that once functioned as the footings for the building where railroad staff lodged during breaks in their runs. Site 41COL291 is recommended as potentially eligible for listing in the National Register of Historic Places (NRHP). Following survey, DART removed the area containing site 41COL291 from the project’s APE; therefore, no further archeological work is recommended for the current undertaking.

Site 41COL299 is an early to mid-20th Century historic site containing scattered remnants of houses within a three-acre proposed parking facility associated with the Plano 12th Street Station. While several features were located during trenching at the site, there is very little remaining and it is likely that nearly all structural remains and most artifacts were scraped from the site during clearing of the parcel in the early 1990s. Therefore, site 41COL299 is recommended as not eligible for listing in the NRHP and no further work is recommended.

Site 41DL535, a historic-age domestic and agricultural site is located on the east side of Grapevine Creek where a new bridge will be constructed on the proposed Cypress Waters route. This site contained three features, displaced concrete pads, and an infilled trash dump containing debris dating from the early to late Twentieth Century. The site was once part of a farmstead owned by J.B. Harrison, an early businessman in nearby Coppell.
However, the site is marginal to the original farmhouse location and was most likely not used as part of the farm’s operation until the 1950s. Therefore, within the current APE, site 41DL535 is recommended as ineligible for listing in the NRHP and no further archeological work is necessary.

The survey encountered and unintentionally removed human remains within DART ROW south of the L.A. Davis Cemetery in East Plano where additional rail was proposed north of the existing DART-owned Cotton Belt line. Archeologists followed the Inadvertent Human Remains Discovery Protocol submitted to the THC with the Antiquities Permit application. The remains were believed to be those of an unknown small child, buried during the mid to late twentieth century. DART modified the design in the vicinity and has established that no work will be done at that location, thus removing the area near the cemetery from the project APE. DART has transferred ownership of the property where the remains were discovered to the L.A. Davis Cemetery. The L.A. Davis Cemetery is currently in the process of planning reinterment of the remains at the discovery location.

Because site 41COL291 and the portion adjacent to the L.A. Davis Cemetery have been removed from the project APE, AmaTerra recommends that the project proceed under the current design.

No artifacts were collected during this survey. Documents and photographs generated during this survey will be permanently curated at Center for Archaeological Studies (CAS) at Texas State University in San Marcos, Texas.
ACKNOWLEDGMENTS

Our primary thanks go to DART, who funded this investigation, and to project manager John Hoppie, who facilitated our work at every stage of the project. Kristine Lloyd and Tom Shelton of HDR provided constant support, which we vastly appreciate. Rachel Feit offered up her experience to both Amy and myself and to DART in navigating through legal framework surrounding the Health and Safety Code of Texas as did Texas Historical Commission reviewer, Rebecca Shelton. We are deeply grateful for the advice, information, and guidance from several members of Plano’s Douglass Community, including Marcellus “Marty” Davis, owner of the L.A. Davis Cemetery, Takisha Voss, Douglass Community Association President, Cecil Starks, Douglass Community representative, and Yvonne Drake, longtime neighbor of the L.A. Davis Cemetery. We would also like to express our gratitude to William Rohr, M.D. and Robert Laughon, Jr. of the Collin County Medical Examiner’s Office, who coordinated temporary housing for remains discovered at the L.A. Davis Cemetery. Finally, we offer many thanks to Joe Ramos, a friend and railroad enthusiast who offered up direction for research and who contributed several photos for this report.

Joel Butler and Amy Goldstein

October 2017
1 INTRODUCTION

1.1 Overview

In May, June, and September of 2017, on behalf of Dallas Area Rapid Transit (DART), archeologists from AmaTerra Environmental, Inc. (AmaTerra) carried out an archeological survey of the Cotton Belt Regional Rail Corridor Project (Cotton Belt Corridor), consisting of 26.2 miles of existing Cotton Belt Railroad, 5.9 miles of proposed new rail alignment, 11 proposed new station locations, and two new support facility locations for maintenance, parking and storage. The project begins at north Terminal B at Dallas/Fort Worth International Airport (DFW), passes through the cities of Grapevine, Coppell, Carrollton, Addison, Dallas, Richardson, and terminates just east of Shiloh Road in east Plano. A project location map is presented in Figure 1-1 and detailed current aerial photographs and recent topographic maps of the entire project alignment and associated components are presented in Appendix A.

Because the undertaking is sponsored by DART, a regional publicly-funded organization, the Antiquities Code of Texas (ACT) applies to the project. The project is also regulated by and partly funded by the Federal Transit Authority (FTA) and therefore is subject to coordination under Section 106.

Fieldwork was carried out under Texas Antiquities Permit No. 7996. No artifacts were collected during the investigation. All documents generated during fieldwork will be permanently housed at the Center for Archaeological Studies (CAS) at Texas State University in San Marcos.
FIGURE 1-1. COTTON BELT REGIONAL RAIL CORRIDOR PROJECT LOCATION
1.2 Project Description

In response to an expanding population, increasing traffic congestion, and the need for mass transit from the northern suburbs of Dallas to DFW International Airport (DFW), DART proposes to expand operations East-West across the region north of Interstate Highway 635 (IH-635). This expansion will link DART to Fort Worth Transportation Authority’s TEX Rail system, which serves the northern Fort Worth region. While the project is still in the planning stages, the areas investigated during AmaTerra’s archeological survey are expected to contain the final project components.

For organizational ease, and to provide continuity with previous background studies prepared by URS, Inc. (Hartsfield et al. 2013), this report divides the project into three segments (Figures 1-1, 1-2, 1-3, and 1-4):

**Segment 1: DFW airport to the Elm Fork of the Trinity River (approximately 8.5 miles)**

This segment begins at the project’s western terminus in Tarrant County and crosses into Dallas County passing through the cities of Grapevine and Coppell. It begins at D/FW Terminal B, crosses State Highway (SH) 114/John W. Carpenter Freeway, SH 121, International Parkway, Royal Lane, Belt Line Road, and South MacArthur Boulevard (Figure 1-2). Included in this segment are the DFW Terminal B Station (to be constructed by others), previously surveyed D/FW North Station (Hartsfield et al. 2013), new ROW allowing for rail curves north of the existing Cotton Belt tie-in north of DFW, and the proposed 1.8-mile Cypress Waters South Option (including the proposed Cypress Waters Station). The Cypress Waters South Option, which includes the proposed Cypress Waters Station, dips south of Southwestern Boulevard and Belt Line Road just northwest of North Lake in the city of Coppell and will require new rail ROW. This segment includes the west side of the Elm Fork of the Trinity and three crossings of Grapevine Creek, two of which are on the existing Cotton Belt ROW to be replaced as part of the current project.
FIGURE 1-2. COTTON BELT CORRIDOR SEGMENT 1
Segment 2: Elm Fork of the Trinity River to the Dallas North Tollway (approximately 7.1 miles)

Segment 2 is located entirely within Dallas County and passes through the cities of Carrollton and Addison and a portion of Dallas surrounding North Lake. From the Elm Fork of the Trinity River, Segment 2 crosses the western end of the George Bush Turnpike, IH-35E/US 77, Josey Lane, Marsh Lane, and Midway Road (Figure 1-3). This segment includes the proposed Equipment Maintenance Facility (EMF), the Downtown Carrollton Station, the new Mercer storage facility, and the Addison Station. No new rail ROW will be required in this segment. This segment includes the east side of the Elm Fork of the Trinity River, channelized Hutton Branch, and Rawhide Creek, all of which are existing crossings to be updated with modern structures.

Segment 3: Dallas North Tollway to east of Shiloh Road (approximately 10.6 miles)

Segment 3 continues east from the North Dallas Tollway through the cities of Dallas, Richardson and Plano, crossing Preston Road, Campbell Road, MacAllum Boulevard (where it crosses from Dallas County to Collin County), Coit Road, Custer Road, Alma Road, the George Bush Turnpike, US 75, Avenue K (Plano), Jupiter Road, and Shiloh Road (Figure 1-4). This segment contains the proposed Knoll Trail Station, Preston Road Station, Coit Road Station, University of Texas at Dallas (UTD) Station, the South Option – Cityline segment of new ROW (1.8 mile), which includes the City Line/Bush Turnpike Station, the 12th Street Station and parking facility, and the Shiloh Station. This segment includes crossings at White Rock Creek, Spring Creek, and several minor tributaries of both streams. One new bridge is planned for the Spring Creek Crossing on the South Option-Cityline segment, while the existing Spring Creek Bridge on the Cotton Belt is planned for replacement. The existing White Rock Creek Bridge on the Cotton Belt will remain in place.

Project APE

The area of potential effect (APE) for the project is considered to include all existing Cotton Belt rail ROW within the proposed Corridor and all new ROW to be acquired for additional rail, station footprints, and support facilities. Depth of impacts vary throughout the project, with less than three feet at station locations, parking areas, and support facilities and up to twenty feet at bridge replacement and new bridge construction locations.
FIGURE 1-3. COTTON BELT CORRIDOR SEGMENT 2
FIGURE 1-4. COTTON BELT CORRIDOR SEGMENT 3
2 ENVIRONMENTAL SETTING

2.1 Geographic Setting

The Cotton Belt Corridor Project is located entirely within the Northern Blackland Prairie ecoregion, an area defined by deep expansive clay soils, level to gently rolling land dominated by grasses, and punctuated by hardwood forests along stream valleys and floodplains (EPA 2013). Prior to Anglo-American settlement, this region was a tallgrass prairie, which supported herds of bison, pronghorn antelope, and elk (Weniger 1997). However, intensive farming, livestock grazing, and urbanization has altered nearly all of the Blackland Prairies throughout Texas. Elevation within the APE ranges from 410 feet at the Elm Fork of the Trinity River to 730 feet between Coit Road and Waterview Parkway in Segment 3.

2.2 Climate

Climate within the Dallas-Fort Worth area is considered humid subtropical with mild winters and hot summers. Rainfall averages about 36 inches annually with great variability year to year with the majority occurring during spring and fall. Winds are generally mild (with the exception of during cold fronts or thunderstorms), and trend from the south year-round (NWS 2017).

2.3 Flora and Fauna

Currently, flora and fauna within the region are associated with widespread urbanization and include numerous invasive plant and animal species (Johnson grass, chinaberry, domestic cats and dogs, house sparrows, pigeons, etc). However, native plants such as bucket thistle, passion vine, mustang grape, cedar elm, sycamore, bois d’arc, shumard red oak, pecan, and walnut were observed throughout the project area during investigations. Native wildlife observed within the corridor was largely limited to birds (mockingbird, western kingbird, red shouldered hawk, great blue heron, and house finches), but signs of opossums and raccoons were noted and a three-toed box turtle was observed in an isolated pocket of woodland near Spring Creek in the proposed new rail area in Segment 3.

2.4 Geology and Soils

Geology within the project area is dominated by Cretaceous-age marine deposits of the Eagle Ford and Austin Chalk formations. Quaternary period Holocene-age alluvium deposits border stream valleys, especially the Elm Fork of the Trinity River (USGS 2007). While no outcrops of the Eagle Ford were observed during survey, Austin Chalk was frequently observed in creek crossings and open ditches in segments 2 and 3. Both formations degrade into the clay soils that define the Blackland Prairie regions.
Soils within the project area are dominated by dark clays such as Houston, Heiden, Altoga, Ferris, and Austin series clays (Figure 2-1). These soils, while having distinctive individual characteristics, are all typically derived in situ and usually have well-defined pedological horizons. Prehistoric archeological sites within these soils are typically expressed at the surface or shallow subsurface as lithic scatters. Within the river valley of the Elm Fork of the Trinity River, alluvially-derived Frio and Trinity soils are present (USDA-NRCS 2017). These soils are Holocene in age and have potential to contain deeply-buried stratified archeological sites. While the soils data indicate the presence of sandy Crockett series soils in the vicinity of the North Lake Station in the eastern portion of the Cypress Waters South Option, shovel testing this area found only Houston-like black clays.
FIGURE 2-1. GENERALIZED SOILS WITHIN THE PROJECT AREA

Heiden-Ferris (s7369)
Houston Black-Heiden-Alboga (s7377)
Houston Black-Heiden-Austin (s7184)
Rader-Lufkin-Gredge-Crockett (s7355)
Stephen-Houston Black-Heiden-Eddy-Austin (s7185)
Trinity-Kaufman (s7697)
3 CULTURAL FRAMEWORK AND ARCHEOLOGICAL BACKGROUND

3.1 Prehistoric and Historic Background

This section provides a condensed summary of prehistoric archeology in the North-Central region of Texas. To date, archeological investigations in the North-Central region of Texas have not been as extensive as adjacent regions (i.e., Central Texas, West Central Texas, Northeast Texas, and Deep East Texas; see Perttula 2004:7), and better understood regions will be referenced when relevant. The following chronology will rely heavily on cultural manifestations discussed in several sources including Brownlow (2001), Ferring and Yates (1997, 1998), Perttula (2004), Prikryl (1990), and Thoms (1994).

3.1.1 Paleoindian

The arrival of humans in the Americas occurred between 16,000 and 14,500 before present (BP) (Gilbert et al. 2008, Pitblado 2011), and until recently, it was generally thought that the Paleoindian Period in Texas did not begin until around 12,000 BP (Perttula 2004). However, new evidence from the Debra Friedkin and Gault sites in Central Texas have begun to push the date of earliest occupation back to around 15,000 BP (Swaminathan 2014; Gault School 2017). The Paleoindian period in the north central region of Texas clearly dates prior to 8500 BP (Prikryl 1990). As the Pleistocene ended, diagnostic Paleoindian materials in the form of Clovis, Folsom, Dalton, Scottsbluff, Golondrina, and Plainview projectile points entered the archeological record. One of the oldest confirmed Clovis sites in North America is arguably the Aubrey Clovis Site (41DN479) in Denton County, Texas, with a carbon date assay of 11,550 BP (Ferring 2001). This site yielded lithic material that can be sourced to distant locations and was used to manufacture a wide variety of tools (blade tools, flake tools, end scrapers, and gravers). Also recorded in the northern portion of Texas are notable Clovis sites, including the Sam Kaufman site in Red River County, Texas, and a smaller site in Lamar County, Texas. This site yielded a single Clovis point, a single Folsom point, and three Dalton points (Story 1990:180). The Roy Young site (41LR36), also in Lamar County, yielded a single Clovis point, and in Grayson County, a single Clovis point was found. Many of these projectile points are in private collections, and further testing was not conducted (Story 1990:180). However, some Paleoindian sites, like 41RR18 in Red River County, demonstrated Paleoindian hearth features 1.8 meters (m) below ground surface (Kenmotsu and Perttula 1993:73).

Typically, Paleoindian points were lanceolate-shaped and fluted for hafting to wooden spears. Using the launching momentum from atlatls (spear-throwers), large game such as mammoth, mastodons, bison, camel, and horse were frequently taken (Black 1989). In addition to megafauna, Paleoindian groups likely harvested smaller prey including antelope, turtle, frogs, etc. Stylistic changes in projectile point technology occurred during this later
portion of the period, eventually shifting to Dalton, Scottsbluff, and Golondrina traditions. While widespread in geographic range, these types occurred in high densities in the High Plains and Central Texas (Meltzer and Bever 1995). Environmental studies suggest that Late Pleistocene climates were wetter and cooler (Mauldin and Nickels 2001; Toomey et al. 1993), gradually shifting to drier and warmer conditions during the Early Holocene (Bousman 1998). As megafauna gradually died off during the shift to warmer climates, subsistence patterns shifted toward smaller game and plant foraging.

3.1.2 Archaic

The Archaic period, broadly divided into the Early, Middle, and Late Archaic sub-periods, signifies a more intensive reliance on local floral and faunal resources with an increase in the number of projectile point styles (Collins 1995). The archeological record demonstrates a heavier reliance on food processing, a wider variety of site functions, and more localized geographic distributions of artifacts.

Early Archaic

According to Prikryl (1990), the Early Archaic spans the period of 8500–6000 BP. Prikryl (1990) suggests a lack of regional differences in adaptive patterns during this time. Subsistence data for this region of Texas during the Early Archaic is somewhat scarce (Ferring and Yates 1997:6). Around 8000 BP, projectile point styles transitioned from unstemmed to stemmed varieties such as the Martindale and Uvalde (Black 1989). As the extinction of megafauna herds took hold, a subsistence shift towards deer, fish, and plants became necessary.

Middle Archaic

Many Early and Middle Archaic sites rest within North-Central and Northeast Texas, but separation of the components has proven problematic. Diagnostic points from this period in the north-central portion of Texas include Dawson, Wells, Carrolton, Morrill, and Basal Notched forms (Prikryl 1990). The R. W. Watts Site Number 2 (41CP14) in Camp County exhibited dense midden deposits and burned rock features dating to the Middle and Late Archaic, with possible earlier components (McKay et al. 2003:14). The Wild Bull site in Henderson County (41HE61) also contained Middle and Late Archaic lithic assemblages and a burned rock feature (McKay et al. 2003:14). The Calvert Site (41DN102) in the Trinity Valley of Denton County has a significant Middle Archaic component. Data from this site suggest a drier Middle Holocene landscape, more mobile populations, and subsistence economies based on smaller game such as deer (Ferring and Yates 1997:30).

Late Archaic:

Prikryl (1990) places the Late Archaic period from 3500 to 1250 BP, and observes at least three increases in site frequency relative to the Middle Archaic period. Late Archaic points include Ellis, Ensor, Palmillas, Yarbrough, Kent, and Gary points. Cultural adaptations and
regional differentiation appears more saliently in many sites, suggesting possible increases in population saturation (Sabo and Early 1990:54). The frequency of open campsites appears to increase, but the scales of sites tend to be smaller. Smaller game such as deer continues to be exploited along with plants, the latter of which is indicated by an increase in lithic tools associated with plant processing activities (Brownlow et al. 1999). At the end of the Late Archaic, when xeric environmental conditions shifted to mesic conditions, a trend that characterizes North Texas as well, thermal features to process succulents became rare (Greaves 2003:15). Late Archaic sites at Joe Pool Lake (Peter and McGregor 1988) and at Lake Ray Roberts (Ferring and Yates 1997; Prikryl and Yates 1987) in Dallas County, Texas suggest that deer and small animals were the primary Late Archaic food resources. The Sister Grove Creek Site in Collin County, Texas, exhibited changes in projectile point technology, burned rock features, and large refuse pits. Similar pits also observed in North Texas may suggest ritual feasting, indicating a possible sociopolitical transition during this time (Bruseth and Martin 1987). A nearby Late Archaic site from the Early Ceramic period, which coincides with the Woodland phase, is situated in Hopkins County, Texas (the Hurricane Hill site, 41HP106). Simple ceramics and smaller dart points are typical of the Woodland phase (Greaves 2003).

3.1.3 Late Prehistoric

There exists some degree of overlap between diagnostic tools that are considered Late Archaic and Late Prehistoric, but the commonly held date for the beginning of this interval is 1200 BP. The Late Prehistoric in North Central Texas is divided into two phases: Late Prehistoric I (1250–750 BP) and Late Prehistoric II (750–250 BP) (Prikryl 1990). A hallmark transition for Late Prehistoric I is the introduction of the bow and arrow, which enabled prehistoric hunters to harvest prey from greater distances with a lesser need for brushless, wide open spaces required for atlatl maneuverability in hunting. The use of arrows in the north-central portion of Texas is indicated by smaller-sized projectile points such as the Alba, Catahoula, and Scallorn types (Prikryl 1990:58). Late Prehistoric II exhibits a steady increase in populations. Other technological traits include the diagnostic Perdz point, alternately beveled bifaces, and specialized processing kits as an adaptation to flourishing bison populations (Ricklis 1992). There is also evidence of early horticulture as Woodland sites continue to grow in the Low Plains area and Caddo communities thrive in East Texas (Perttula 1995). The transition from the Late Archaic Woodland to the Caddoan is evidenced by significant changes in technology and subsistence. Distinctive ceramic vessels and decorative styles, burial practices, mound architecture, and agriculture subsistence are seen in the subdivisions of the Caddo era. Caddo lithic tool kits consisted primarily of arrow points, drills, utilized flakes, and celt fragments (Story 1990). Ceramics are more widely used during this period, and typically consist of fine-ware red-slipped ceramics, particularly along the Red River (Perttula 1995). Over a dozen Formative to Middle Caddoan sites have been recorded within Red River and Lamar Counties (Kenmotsu and Perttula 1993:125–129). Evidence from the Harrell Site (41YN1), southwest of Denton County, suggests that
interaction between Toyah and Caddo groups took place in North-Central Texas (Ferring and Yates 1997).

3.1.4 Historic Period

Early Settlement

Europeans first entered what is now Texas in AD 1528 when members of the Panfilo Narvaez expedition washed ashore in Matagorda Bay. After this initial landing, the Spanish visited only sporadically, and did not settle in Texas until around AD 1700 (Webb 1952). In response to the continuous threat of Apache and Comanche raiders, as well as the French incursion into East Texas, the Spanish erected a series of missions and presidios in Texas during the eighteenth century. In 1820, the newly independent Mexican government began granting empresario contracts to Anglo Americans to encourage settlement and development in Texas.

After gaining independence from Mexico, the Republic of Texas continued the empresario system of land grants to continue to encourage American settlers to come to Texas. Present-day Dallas and much of the surrounding area in North Texas was settled by Anglo Americans as a result of the Peters Colony empresario grant. This grant was made by the Republic of Texas in 1841 to a group of 20 American and English investors led by William S. Peters (Wade 2010). Peters and the other investors were charged with settling 200 families over a period of three years. The investment group was not able to fulfil these contractual obligations, even after multiple extensions. Despite protracted legal and financial difficulties and conflicts with settlers, the Peters Colony was mostly responsible for the settling of North Texas.

Railroads in Texas

To survive as a country, it was essential for the newly formed Republic of Texas to build transportation and communication connections to the outside world. The first attempt to build railroads came in 1836 when the First Congress of the Republic of Texas chartered the Texas Railroad, Navigation, and Banking Company to construct railroads and other transportation improvements such as roads and canals. However, the company met serious opposition from the citizens of Texas, and within two years it collapsed without building any railroads (RRC 2015; Werner 2010). Over the next 10 years the Republic of Texas granted three additional charters, but none of these companies were able to build any rail either.

The Buffalo Bayou, Brazos, & Colorado Railway Company was chartered in 1850. This company was successful in laying 20 miles of track that went from Harrisburg (now part of Houston) to Stafford. It opened for operation on September 7, 1853 (RRC 2015; Werner 2010). This was the first railroad to operate in Texas and only the second railroad to operate west of the Mississippi River. After this first success, railroads in the state slowly began to expand. By the end of 1861 Texas had nine railroad companies and 470 miles of track. Five
of the railroads were centered in the Houston area, and most of the others ran to a sea or river port (Werner 2010).

During the Civil War, Texas railroads suffered from constant use with minimal maintenance. Additionally, many miles of track had been destroyed to prevent it from falling into Union hands. By the 1870s, however, Texas railroad companies had recovered and began to expand in earnest throughout Texas. The Houston and Texas Central built northward from Houston, reaching Dallas in 1872. In 1873 the Houston and Texas Central connected to the Missouri, Kansas, and Texas Railway, which had been building southward. This meet up connected the Texas rail system to the nationwide network (Museum of the American Railroad 2016; Werner 2010). By the end of the 1870s, Texas had 2240 miles of railroads, although less than 100 miles of this lay west of San Antonio (Werner 2010).

An additional 6000 miles of track were laid in Texas throughout the 1880s. This decade also saw many of the small, independent Texas companies bought by outside interests in other states. In particular, Jay Gould of New York gained control of nearly all the railroads in Texas. As early as the 1870s some people and groups were calling for government regulation of railroads to prevent exorbitant rates and reign in the abuses of the monopolistic business enterprises. In 1875 some measures of regulation were passed, but there was no agency to enforce them (RRC 2015). The Texas Legislature created the Railroad Commission of Texas in 1891 to create and enforce regulations (RRC 2015).

Around the turn of the century, railroads began to expand into the Rio Grande Valley, the Panhandle, and West Texas where there were still virtually no railroads. By 1932 Texas reached its railroad peak with 17,078 miles of tracks (Werner 2010). After WWII many Texas railroads made improvements to provide more streamlined passenger transportation. Although successful at first, most of these passenger lines closed by the 1960s due to competition from roads and private automobiles and commercial passenger flights. Today Texas still has more railroad mileage than any other state. These days the railroad is mostly used to transport freight, though Amtrak does run a few passenger lines through the state. Many Texas cities are looking to rail once again as a fast and cheap transportation method and as a way to reduce traffic congestion.

The Cotton Belt Railroad

The following is summarized from 80 Years of Transportation Progress: A History of the St. Louis Southwestern Railway. This was originally published in 1939 as a Master’s Thesis by Jacob E. Anderson. A second revised and expanded edition was published by Cotton Belt News in October 1957.

What would become known as the Cotton Belt Railroad, spanning four states and hundreds of miles, began in Tyler, Texas in 1877 as the Tyler Tap Railroad. James P. Douglas, a Tyler resident, first petitioned the Texas Legislature in 1870 to allow him to start a company that would build a railroad from Tyler, TX to connect to some larger railroad. His goal was to improve the ability of East Texas towns to move commodities to market. The legislature
granted Douglas permission, and construction started in 1875. The railroad was put into operation on October 1, 1877 and consisted of 21.5 miles of track that ran from Tyler to Big Sandy, TX.

The Tyler Tap soon fell into financial difficulties, so Douglas went to St. Louis and convinced a group of financiers to purchase the railroad. Their plan was to extend the Tyler Tap to Texarkana where it could connect with the Iron Mountain railroad. This would create a direct route for cotton from Texas to the Eastern markets. On May 17, 1879 the Texas and St. Louis Railway Company was formed for the purpose of this undertaking. Plans to connect with Iron Mountain soon fell through, so the company decided to build its own new track through Arkansas and Missouri.

Over the next few years the Texas and St. Louis Railway Company built across Arkansas and Missouri, completing the line from Gatesville, TX to Bird’s Point, MO on August 13, 1883. Bird’s Point served as the Cotton Belt’s northern terminus for 8 years before a contract was signed with the Illinois Central Railroad that allowed the line to run to Cairo, IL through trackage rights. Despite its great success in adding mileage to the railroad, the company was not able to recoup the costs of building hundreds of miles of new track through difficult terrain and was forced to declare bankruptcy in 1886. A few months later the company was reorganized as the St. Louis, Arkansas, and Texas Railway. The financial burden of switching the entire railroad from narrow to standard gauge rails forced this iteration of the company into bankruptcy just a few years later. In January 1891 the St. Louis, Arkansas, and Texas properties were reorganized into the St. Louis Southwestern Railway.

The Cotton Belt was finally able to gain some financial prosperity as the St. Louis Southwestern Railway. Over the next 35 years the company built numerous branch lines and gained more mileage through trackage rights contracts. In the first years of the twentieth century the Cotton Belt greatly expanded in the Dallas area. The railroad gained more track into Dallas by buying the Dallas Terminal Railway and Union Depot Company in April 1901, and in 1903 it built its own tracks from Dallas to Addison. In 1932 the Southern Pacific Railroad took over the Cotton Belt by purchasing most of its stock, though the name St. Louis Southwestern remained.

On August 13, 1983, Dallas Area Rapid Transit (DART) was created to develop public transportation in Dallas and surrounding areas. Within a few years, DART created a plan for a light rail passenger train system. In 1991 DART purchased 54 miles of railroad ROW from St. Louis Southwestern Railway that could be added to their light rail system after 2010.

**North Texas Towns and the Cotton Belt**

Many of the towns along the proposed ROW for the current project exist because of the railroad. Most of the towns would not have been economically viable or capable of attracting a large population without the railroad connecting them to larger cities and ports in Texas and throughout the country. Furthermore, some towns, such as Richardson, were initially only stops on the railroad; the town itself grew out of the stop.
Grapevine

In 1843 General Sam Houston and representatives from the Republic of Texas met with ten Indian Nations at Grapevine Springs, near the present-day location of the City of Grapevine. Here they negotiated a treaty that was later signed at Bird’s Fort which opened the area to white homesteaders. Within a year the first white settlers arrived in the area (Grapevine Convention & Visitor Bureau 2017). Archibald F. Leonard was one of the first of these settlers, arriving with the “Missouri Colony” from Platte County, Missouri in 1845. In 1846 the Lonesome Dove Baptist Church was established at the settlement, and by 1849 Leonard was operating a store on his property. In 1854 some of the founding members of the settlement met to lay out a town and arrange for a post office. Judge James Tracey Morehead suggested the name “Grape Vine” for the town and its post office. Though the town was known by several names throughout the years, the post office has always been called “Grape Vine” or “Grapevine” (Young 2010).

Grapevine remained a relatively small and isolated agricultural community until 1888 when the Cotton Belt (St. Louis, Arkansas, and Texas Railway) began service through the town on its Commerce to Ft. Worth line. Soon cotton farming became the principle agrarian occupation and the town became a regional trade center. Businesses soon sprang up in town to support the booming cotton trade, including three gins and a hotel (Solamillo 1997). In the 1890s churches and a public school were built to serve the growing community. This was also the decade that the local newspaper, the Grapevine Sun began publishing (Young 2010). The next few decades were a time of general economic prosperity thanks to the new markets opened by the railroad and the speed with which goods could be moved to them. The population of Grapevine also increased during this time, reaching 800 by 1900. By 1914 it had increased to 1,200 (Young 2010).

Despite increased competition from cars in the 1920s, the Cotton Belt railroad continued to grow in Grapevine until 1930 when the Great Depression led to a major decline in passengers and freight for the railroad. During WWII the economy of Grapevine improved as local farmers and millers increased production to meet government quotas. In 1974 DFW Airport opened at the southeastern edge of the town. This led to a major population increase and economic development in Grapevine over the next few decades. In 1970 the population was 7,023, and by 1990 it had increased to 29,202 (Young 2010). Beginning in 1992 the Grapevine Heritage Foundation began working to restore the historic Cotton Belt Railroad depot and section house by purchasing them and moving them back to their original locations. In 1995 and 1996 the depot and section house were restored and the depot was turned into a museum (Solamillo 1997). Today both buildings are part of the Grapevine Heritage Center that also includes a blacksmith shop, leather shop, farmer’s market, and heritage garden.
Coppell

The first Anglo-Americans to settle in what would become Coppell created the Grapevine Springs community in 1832 in the vicinity of present-day Grapevine Springs Park (City of Coppell 2015). In 1848 James Parrish of Goliad was issued a 640-acre land grant in the future area of Coppell. He settled there with his family soon after (Coppell Historical Society 2015; Nall 2010). By 1873 the small farming community had named itself Gibbs in honor of Barnett Gibbs, future Lieutenant Governor of Texas. The town name officially became “Gibbs” when a post office was established in W. O. Harrison’s general store (Coppell Historical Society 2015). In 1888 the Cotton Belt (St. Louis, Arkansas, & Texas Railway opened its line from Commerce to Ft. Worth that passed through Coppell. In 1890 the railroad built a new depot in Gibbs and named it “Coppell,” probably after important railroad investor, George Coppell (Coppell Historical Society 2015). Just two years later Gibbs officially changed its name to “Coppell.”

By 1893 Coppell had four stores, a lumber yard, blacksmith shop, cotton gin, and school (City of Coppell). By 1914 the town had a population of 450, two churches, two general stores, two blacksmiths, a bank, a hardware store, and a telephone service (Nall 2010). In the 1920s Coppell saw a decline in its population and number of businesses. Over the next few decades the population slowly increased and the local economy recovered. In 1955 the town was incorporated. Major expansion occurred in the 1970s, especially after the Dallas-Ft. Worth Airport opened nearby in 1974. By 1984 the town had 3,826 people and 31 businesses. 1984 was also the year that Coppell residents approved a $16.3 million bond to improve streets, construct a new civic center, build more fire stations, increase the size of the park system, and install an emergency warning system (Nall 2010). Today Coppell is a suburb of the Dallas-Ft. Worth metroplex. As of the 2010 U.S. Census its population was 38,659.

Carrollton

The City of Carrollton was originally part of the Peters Colony land grant. The first Anglo-American settlers to come to the area were William and Mary Larner, who arrived in 1842. A.W. Perry and his family arrived two years later and claimed a headright in the Trinity Mills area. Here, Perry established a mill with Wade H. Witt. Over the years, Perry acquired vast landholdings that probably included the site of present-day Carrollton (Perez 2010). Carrollton remained a small agricultural community until a railroad was built through the town. In 1878 the Dallas and Wichita Railway made plans to build through Carrollton, and that same year a post office opened in the town. In 1880 Jay Gould bought the unfinished Dallas and Wichita and extended the rail line through Carrollton to Denton. By 1885 the population had grown to 150 and the town had cotton gins, flour mills, a school, and two churches (Perez 2010).

In 1888 the Cotton Belt came to Carrollton, where it intersected the Katy Railroad. Carrollton subsequently developed into a shipping center for livestock, grain, cotton, and cottonseed. Beginning in 1912 a gravel industry was established in the town. After WWII the
city worked to attract other industries, and in 1946 National Metal Products, a metal utility cabinet and shelving manufacturer established itself in the town (Perez 2010). Like many of the cities and towns in the Dallas-Ft. Worth area, Carrollton saw massive growth in population and economy in the 1970s. The population grew from 13,855 in 1970 to 40,595 in 1980. By the 1980s Carrollton had completely transitioned from a small farming community to a mostly urban area with industries such as auto parts distribution, food packing, light manufacturing, and manufacturing of computers, semiconductors, and electronic components (Perez 2010). As of the 2010 U.S. Census the population of Carrollton was 119,097.

Addison

The first Anglo-Americans to settle around present-day Addison came from the Peters Colony in the 1840s. The first prominent settlers were Preston and Pleasant Witt who made their homestead on White Rock Creek. They built an ox-powered gristmill that was completed by 1849 (Maxwell 2010a). The area remained sparsely populated throughout the next several decades, though that began to change when the railroad came through. In 1888, W.W. Julian, W.E. Horton, and S.S. Noell donated land for the right of way for the St. Louis, Arkansas, and Texas Railway in exchange for a coaling station. Soon after, the railroad arrived, and several buildings were moved from the nearby town of Frankford to the railway station. This stop on the railway became known as Noell Junction (Maxwell 2010a).

The St. Louis Southwestern Railway built a depot at Noell Junction in 1902 and a spur into Dallas in 1903. By 1904 a post office opened at the station. Since another town in Texas was already named “Noell,” the town was named Addison after the first postmaster, Addison Robertson. That same year, six town blocks were platted for the growing community (Maxwell 2010a). By 1914 the population had grown to 75 and the town had three grocers, a dry goods store, and a bank. Just over a decade later, however, the population had dwindled to nearly half that size and the bank had failed. In the years following WWII, Addison was able to bounce back, and by the mid-1950s it had a population of 600 and eight businesses, including a newspaper and an airport. In 1953 the town was incorporated to avoid annexation by Dallas (Maxwell 2010a). In 1976 residents of Addison voted to legalize selling alcohol by the drink. This, combined with low property taxes drew hundreds of businesses to the town, especially restaurants and hotels. By 1990 the town had a population of 8,783 and 251 businesses (Maxwell 2010a). This trend has continued to the present, making Addison a busy and prosperous suburb of Dallas.

Dallas

Dallas was able to grow into the large city it is today because it was located at the juncture of two major railroads. John Neely Bryan founded Dallas in 1841 when he set up a trading post on the east bank of the Trinity River near a natural ford. In 1844 a town site was surveyed and laid out, consisting of one half square mile of city blocks. The town soon
became the supply center for the surrounding rural area, and by 1860 the population was 678 (McElhaney and Hazel 2015).

The key to truly expanding Dallas was better transportation into and out of the region. The Houston and Texas Central Railroad reached Dallas from Houston in 1872. The H&TC continued to build north to Sherman, connecting with the Missouri, Kansas, and Texas Railroad, which in turn connected Dallas to a national rail system, opening markets in the Midwest and Northeast. In 1873 the Texas and Pacific Railway made it to Dallas from the east. The T&P crossed the H&TC at Dallas, and this junction of two major railroads led to rapid population and economic growth in Dallas (Museum of the American Railroad 2016). In 1870 the population was about 3000; by 1880 it had more than tripled to 10,385 (McElhaney and Hazel 2015). During the 1870s Dallas became one the largest inland cotton exchanges in the nation. Vast amounts of cotton were grown on the farms surrounding Dallas. In the city itself the cotton was warehoused, traded, and shipped.

Throughout the 1880s and 1890s banking and insurance became important industries in Dallas. The city grew steadily throughout this time and into the twentieth century. By 1920 the population had reached nearly 160,000 and the city’s economy was thriving. Around the turn of the century Dallas was the leading cotton, book, drug, jewelry, and wholesale liquor market in the southwest (McElhaney and Hazel 2015). It was also the world’s leading manufacturer of saddlery and cotton gin machinery. Along with the rest of the country, Dallas experienced an economic downturn during the Great Depression of the 1930s only to experience an economic and population boom in the decades following the end of WWII. Throughout the 1950s and 1960s the city became one of the nation’s leading technology centers as companies such as LTV Corporation and Texas Instruments grew (McElhaney and Hazel 2015).

Just as the arrival of the railroad led to exponential growth in the 1870s, the opening of the Dallas-Fort Worth International Airport in 1974 attracted new corporation headquarters to Dallas. Economic growth throughout the 1970s and 1980s created a building boom in the city as well. By 1990 the population surpassed 1 million people (McElhaney and Hazel 2015).

Richardson

The area around present-day Richardson was first settled by farming families of the Peterson Colony in the 1840s and 1850s. Some of the earliest settlers formed the community of Breckinridge, which flourished as a small agricultural town until 1873 when it was bypassed on the Houston and Texas Central route (Maxwell 2010b). A few miles away, William J. Wheeler and Bernard Reilly donated 101 acres for a town site and railroad right of way. In 1873 Richardson was founded on the H&TC Railroad tracks, and the residents of Breckinridge moved to Richardson. By 1881 Richardson was a thriving railroad town with grocery stores, general stores, drugstores, cotton gins, churches, and even doctors (Maxwell 2010b). Richardson continued to grow in the first decades of the Twentieth Century as
transportation improved. The Interurban arrived in 1908, which carried passengers north to Denison and South to Waco and west to Ft. Worth. In 1924 the Red Brick Road (Greenville Ave.) was completed, which also increased traffic. By 1910 the community had a telephone, electric lights, and a population of about 600 (City of Richardson 2017).

After WWII, Richardson experienced a period of major growth. In 1954 Central Expressway (U.S. Highway 75) arrived, which allowed Richardson to become a true suburb of Dallas. Throughout the 1950s technological industries such as Collins Radio and Texas Instruments moved in, and Richardson became known as “the electronic suburb” (Maxwell 2010b). In 1952 the population was 1,288; by 1961 it had increased more than tenfold to 16,810. In 1961 the Southwest Center for Advanced Studies was dedicated; it opened three years later. In 1969 it became part of the University of Texas system, called the University of Texas at Dallas (City of Richardson 2017). Throughout the 1960s a number of industrial parks developed in Richardson. Dozens of businesses opened throughout the decade, including 22 manufacturing firms. Exponential population growth also continued, and by 1970 the population had reached 43,900 (Maxwell 2010b). Richardson experienced another period of economic expansion in the 1990s when telecommunication industries began moving in. Today Richardson is one of the largest suburbs in the Dallas-Ft. Worth metroplex. As of 2015 its population was 106,123. Thousands of businesses operate within the city and employ approximately 88,000 people each day, predominantly in the telecommunication and insurance industries (City of Richardson 2017).

Plano

Plano developed on the Joseph Klepper and Sanford Beck headrights in what would become Collin County. Settlers from the Peters Colony moved into the area beginning in 1845. William Forman, a Kentucky farmer, purchased Sanford Beck’s survey in 1851 and soon after opened a general store, post office, and other businesses that served the surrounding rural community. Forman’s town officially became known as “Plano” when the post office opened there in 1852 (Schell and Wells 2010). Plano grew and developed slowly over the next two decades. Since it was located on the Shawnee Trail, cattle driving became an important early industry for the town. By 1870 it had a modest population of 155 (City of Plano 2017).

Plano began to experience major growth after 1872 when the H&TC railroad was extended from Dallas into Plano. By 1874 the population had grown to over 500. In 1888 the Cotton Belt (at this time formally the St. Louis, Arkansas, and Texas Railway) extended into Plano and crossed the H&TC railroad (Schell and Wells 2010). This sudden access to geographically distant markets turned Plano into a retail outlet, and many of the surrounding farmers transitioned from subsistence farming to cotton cash crop farming. By 1890 the population had soared to 1,200 and the town had six churches, three schools, two newspapers, and two gristmill-cotton gins.

One of the earliest cemeteries in Plano was the Old City Cemetery (also known as the Old Plano Pioneer Cemetery, Old Plano Cemetery, Pioneer Cemetery, Douglass Community Cemetery, McElvain Cemetery, and Plano Pioneer Cemetery). The earliest known grave in
the cemetery dates to 1881. The cemetery was created out of land from the Joseph Klepper headright.

Although the population steadily increased over the next several decades, Plano remained a largely rural, farming community. It was not until the 1970s when Dallas experienced dramatic population increase that Plano began to change into the populous suburb it is today. In 1970 the population of Plano was 17,872; by 1990 it had grown to 128,713 (Schell and Wells 2010). A land reappraisal in 1970 raised taxes, which led to a major decrease in farming in the area. As farming declined, more businesses moved in. Throughout the 1980s several corporations move their headquarters to Plano. Today it is the largest city in Collin County.

**Douglass Community**

The Douglass Community is a historically African American neighborhood located within the City of Plano. It is situated roughly between Avenue F on the west, 14th Street to the north, the DART and Cotton Belt railroad tracks on the east, and Southwestern Avenue to the south and southeast. This area was originally part of the Joseph Klepper 620-acre land grant. Klepper was one of the earliest settlers in the area. Klepper deeded a small part of his property for a cemetery and Methodist Church. The Church was built at what is now 13th Street and I Avenue. The cemetery is now the Plano Old City Cemetery. The church was active between 1874 and 1894, when it relocated. After the church moved, many of the local attendant families moved too (Hartsfield et al. 2013).

Many of the people that moved into this area were African American. In 1884 the Mt. Zion Colored Baptist Church (now Shiloh Missionary Baptist Church) was founded in the Douglass Community, and the earliest congregation worshiped in a small building on 13th Street, just west of I Avenue. Members of the Douglass Community still worship at this location in a much newer and larger building. Throughout the next several decades the community grew and flourished despite Jim Crow laws that enforced segregation of schools, restaurants, and other public places and also severely limited economic opportunities for African Americans. In 1907 the community built a schoolhouse near the intersection of 13th Street and I Avenue. Many of the families that moved into the community started small businesses such as cafes, grocery stores, barber shops, and even a cobbler (Hartsfield et al. 2013).

L.A. Davis moved to the Plano area from South Texas in 1910 to find work as a sharecropper. An astute businessman, Davis was able to acquire considerable wealth through stocks and real estate. Jim Crow laws made it difficult for African Americans to acquire property, so in 1945 Davis purchased a large tract of land (the L.A. Davis Addition to Plano) in the Douglass Community and sold small plots of it to local African Americans (Campbell 2017). Davis also set aside a 1-acre area in the northeast corner of the Addition for a cemetery that was reserved for African Americans in the Douglass Community (Campbell 2017) (Figure X). Although African Americans could be buried in the Old Plano City Cemetery as early as the 1920s, that small cemetery was quickly running out of space, and few other cemeteries in
the surrounding area were integrated at the time. Today the Douglass Community retains a strong identity rooted in its history.

3.2 Previous Archeological Work

AmaTerra archeologists consulted the Texas Archeological Sites Atlas (Atlas) to identify previous surveys and previously recorded cultural resources (Figures 3-1 through 3-7). According to the Atlas, 45 previous surveys have been conducted within one kilometer (0.62 mile) of the project area, 13 of which intersect the project itself. A survey carried out by URS, Inc. in 2013 for the FTA and TEX Rail under Antiquities Permit 4775 covered the westernmost portion of the project area from D/FW Airport to SH 121. While three sites were documented by this survey, none were within one kilometer of the current project area. A 2005 survey of Keller Springs Park by AR Consultants for the US Army Corps of Engineers is plotted encompassing part of the project area; no sites are plotted on the Atlas associated with this survey. Additionally, a 2011 survey was carried out by Halff Associates, Inc. for Dallas Water Utilities along and adjacent to portions of the project area from Keller Springs Park to Coit Road; this survey documented no sites in their survey areas.

FIGURES 3-1. PREVIOUSLY RECORDED ARCHEOLOGICAL SITES AND SURVEYS WITHIN ONE KILOMETER OF THE APE.

Redacted:
Sensitive Site Location Information
FIGURES 3-2. PREVIOUSLY RECORDED ARCHEOLOGICAL SITES AND SURVEYS WITHIN ONE KILOMETER OF THE APE.

Redacted:

*Sensitive Site Location Information*
FIGURES 3-3. PREVIOUSLY RECORDED ARCHEOLOGICAL SITES AND SURVEYS WITHIN ONE KILOMETER OF THE APE.

Redacted:  
Sensitive Site Location Information
FIGURES 3-4. PREVIOUSLY RECORDED ARCHEOLOGICAL SITES AND SURVEYS WITHIN ONE KILOMETER OF THE APE.

Redacted:

Sensitive Site Location Information
FIGURES 3-5. PREVIOUSLY RECORDED ARCHEOLOGICAL SITES AND SURVEYS WITHIN ONE KILOMETER OF THE APE.

Redacted: Sensitive Site Location Information
FIGURES 3-6. PREVIOUSLY RECORDED ARCHEOLOGICAL SITES AND SURVEYS WITHIN ONE KILOMETER OF THE APE.

Redacted: Sensitive Site Location Information
FIGURES 3-7. PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES AND SURVEYS WITHIN ONE KILOMETER OF THE APE.

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Sensitive Site Location Information
There are 30 previously recorded archeological sites within a kilometer (0.62 mile) of the project area as presented in Table 3-1, but none of them are located within the project ROW. Most of the documented sites are historic houses ineligible for listing in the National Register of Historic Places (NRHP). Only one site within the kilometer buffer is recommended as eligible for listing - 41COL177. 41COL177 was documented by Geo-Marine, Inc. in 2003. The site, located in Plano’s Douglass Community 287 meters north of the current project area, is an historic in-town sharecropper’s house, which has been converted into an African American history museum.

### TABLE 3-1. Archeological Sites within one kilometer of the Project Area

<table>
<thead>
<tr>
<th>Site Trinomial</th>
<th>Temporal Affiliation</th>
<th>NRHP Eligibility</th>
<th>Site Name</th>
<th>Distance (meters) from Project Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>41COL177</td>
<td>Historic</td>
<td>Eligible</td>
<td>Thornton House</td>
<td>287</td>
</tr>
<tr>
<td>41COL47</td>
<td>Prehistoric</td>
<td>Not Eligible</td>
<td></td>
<td>599</td>
</tr>
<tr>
<td>41COL83</td>
<td>Historic</td>
<td>Not Eligible</td>
<td>Rooth Cemetery</td>
<td>840</td>
</tr>
<tr>
<td>41DL251</td>
<td>Prehistoric</td>
<td>Not Eligible</td>
<td></td>
<td>723</td>
</tr>
<tr>
<td>41DL309</td>
<td>Prehistoric</td>
<td>Not Eligible</td>
<td></td>
<td>460</td>
</tr>
<tr>
<td>41DL312</td>
<td>Historic</td>
<td>Unknown</td>
<td>The Old Drugstore in Coppell</td>
<td>492</td>
</tr>
<tr>
<td>41DL329</td>
<td>Historic</td>
<td>Unknown</td>
<td>Grapevine Springs</td>
<td>35</td>
</tr>
<tr>
<td>41DL330</td>
<td>Historic</td>
<td>Not Eligible</td>
<td></td>
<td>632</td>
</tr>
<tr>
<td>41DL34</td>
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<td>No Data</td>
<td></td>
<td>80</td>
</tr>
<tr>
<td>41DL392</td>
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<td>Not Eligible</td>
<td></td>
<td>385</td>
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<td>41DL399</td>
<td>Historic</td>
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<td>144</td>
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<td>41DL400</td>
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<td>668</td>
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<td>470</td>
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<td>41DL404</td>
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<td>Not Eligible</td>
<td></td>
<td>347</td>
</tr>
<tr>
<td>41DL424</td>
<td>Historic</td>
<td>Unknown</td>
<td>Ledbetter Bridge</td>
<td>295</td>
</tr>
<tr>
<td>41DL43</td>
<td>No Data</td>
<td>No Data</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>41DL44</td>
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<td>No Data</td>
<td></td>
<td>673</td>
</tr>
<tr>
<td>41DL447</td>
<td>Historic</td>
<td>Unknown</td>
<td>A. W. Perry Homestead</td>
<td>236</td>
</tr>
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<td>41DL459</td>
<td>Historic</td>
<td>Not Eligible</td>
<td></td>
<td>784</td>
</tr>
<tr>
<td>41DL510</td>
<td>Historic</td>
<td>Not Eligible</td>
<td></td>
<td>211</td>
</tr>
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<td>Historic</td>
<td>Not Eligible</td>
<td></td>
<td>571</td>
</tr>
<tr>
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<tr>
<td>41TR176</td>
<td>Historic</td>
<td>Not Eligible</td>
<td></td>
<td>341</td>
</tr>
<tr>
<td>41TR177</td>
<td>Historic</td>
<td>Not Eligible</td>
<td></td>
<td>285</td>
</tr>
<tr>
<td>41TR178</td>
<td>Historic</td>
<td>Not Eligible</td>
<td></td>
<td>209</td>
</tr>
<tr>
<td>41TR179</td>
<td>Historic</td>
<td>Not Eligible</td>
<td></td>
<td>175</td>
</tr>
<tr>
<td>41TR180</td>
<td>Historic</td>
<td>Not Eligible</td>
<td></td>
<td>233</td>
</tr>
<tr>
<td>41TR181</td>
<td>Historic</td>
<td>Not Eligible</td>
<td></td>
<td>332</td>
</tr>
<tr>
<td>41TR214</td>
<td>Historic</td>
<td>Not Eligible</td>
<td></td>
<td>592</td>
</tr>
</tbody>
</table>

Three previously documented sites are within 100 meters of the current project, 41DL34, 41DL43, and 41DL329. Site 41DL34 is plotted 80 meters south of the Beltline Road Cypress Waters new rail component of the current project area. While no data is available on the Atlas, given that historic maps and aerial photographs indicate no dwelling in the vicinity, and given its low Smithsonian Trinomial designation, it is likely to be an upland prehistoric site. Site 41DL43 is located 100 meters north of the project area on the west side of White Rock Creek. While no data is available on the Atlas, given that the site is located directly on
a major creek’s bank, it is likely to be an alluvially deposited prehistoric site. Site 41DL329 is located north of the existing railroad in Grapevine and is comprised of Grapevine Springs City Park. This historic-age site is located along the west bank of Grapevine Creek dating to the mid-19th Century and was developed into a park by the Works Progress Administration in the 1930s. None of the sites will be impacted by the current project.

3.3 Archeological Site Potential

Prehistoric Site Potential

As discussed in Chapter 2, soils within the project area are typically associated with poorly-stratified surface scatters of chert and quartzite debris. However, where deep Holocene-age sediments occur, such as at stream crossings, there is potential for well-stratified deposits. Within the North Central Texas region, these sites are usually lithic-poor, consisting mostly of faunal remains, burned rock, and utilized flakes.

Historic Site Potential

A review of aerial photography and historic maps indicates that the project area has been utilized as a railroad for most of the post-settlement period in the region. Station locations and new ROW were overlaid on available historic aerial photographs, Sanborn fire insurance maps, historic topographic maps, and current aerial imagery to identify potential historic-age archeological sites. Historic-age sites within the region are typically agricultural, due to the long period of intensive farming of nearly all arable land prior to urbanization in the late 20th Century. Additionally, because the project area is entirely within or adjacent to 130-year-old railroad ROW, camps, structures, staging areas, and other rail-related sites would be likely to occur.
4 METHODS

The archeological survey conformed to both linear and area survey standards established by the Council of Texas Archaeologists (CTA) and included visual inspection of 100 percent of the areas proposed for survey (Figure 4-1). Most of the 26.2-mile project is located within existing rail ROW, which was determined to have been previously deeply impacted by construction activities, and therefore not subject to intensive survey methods. AmaTerra’s survey included the proposed station locations, support facilities, and proposed new rail ROW locations accompanied by shovel testing in areas where deep disturbances have not taken place. Although the replacement bridges will be constructed in the same approximate location within railroad ROW, major drainage crossings were evaluated for potential to contain intact archeological deposits in the vicinity of existing bridges. Shovel testing and backhoe trenching were planned if field observations could not rule out the absence of intact cultural materials in those locations.

FIGURE 4-1. SURVEY AREAS
4.1 Shovel Testing

Shovel tests measured 30 centimeters (cm) in diameter and extended to a maximum depth of 80 cm below surface (cmbs). Tests were excavated in 20-cm increments and all soil was screened through ¼-inch hardware cloth. Relevant information for all shovel tests was recorded on a standardized form.

Shovel testing was conducted at the prescribed CTA variable rate per proposed station or support facility based upon acreage of each location. Because the DFW North Station was recently surveyed and cleared by URS (Hartsfield et al. 2013) for DART, it was not shovel tested as part of this survey. Shovel testing within the unsurveyed portions of proposed new rail ROW was conducted at a rate of 16 tests per mile per 100 feet of ROW. Areas of obvious disturbance were documented through photographs and field notes and omitted from shovel testing.

4.2 Backhoe Trenching

Because the new rail alignment segments included several potential buried historic buildings and two proposed new bridge locations (over Grapevine Creek and Spring Creek) where stream crossings had potential to encounter deep Holocene alluvium, backhoe trenching was proposed as a means of locating deeply buried deposits or structural remnants and for characterizing stratigraphy at stream crossings. Backhoe trenches at streams were placed roughly parallel to the creek and excavated to the depth where culturally sterile subsoil had clearly been reached. At historic structure locations, corners were estimated using historic Sanborn maps and trenches were excavated to one meter or sterile soil at that location. Trenches were four to six meters in length and one meter in width. During excavation, samples of soil were periodically screened for artifacts. After excavation, detailed profiles were drawn and notes and photographs were taken to characterize the stratigraphy and evaluate potential for archeological sites in their vicinity.

Specific site information was recorded on standardized forms and will be presented to the Texas Archeological Research Laboratory (TARL) for inclusion in their archives. Artifacts found on the surface and in shovel tests were field catalogued then returned to their original locations. No artifacts were collected during the survey.

4.3 Archeological Inspection Near the L.A. Davis Cemetery

In the Antiquities Permit work plan, on file with the THC, AmaTerra proposed the use of a standard rubber-tracked backhoe with a meter-wide smooth bucket to excavate a series of backhoe scrapes within the 300-foot-long portion of the project footprint that fronts the L.A. Davis Cemetery. Archeologists would first excavate four north-south-oriented backhoe scrapes (approximately 25 meters apart) along the full length of the corridor that would, along with potentially exposing grave shafts, be used to define a stratigraphic baseline for this section of the project, which was to be followed up with one or two 300-foot long
scrapes of the entire length of the ROW parallel with the cemetery fence. Each of these scrapes would be a maximum of 10 meters long and extend to a maximum depth of 1.5 meters below the ground surface. Each backhoe scrape was monitored by the Principal Investigator while the field director assisted and screened fill from periodic bucket-loads (roughly one every 3-4 sweeps) through ¼-inch hardware cloth. Using notes, standardized forms, and photographs, archeologists documented in detail the resulting soil profiles for each trench, identifying prevailing horizon depths, modern disturbance areas, and depths of intact, natural sediments (sediments that have the highest potential to illuminate grave shafts). Following excavation and recording, each scrape was backfilled.

If, at any time or at any excavation depth, indications of human interment were observed, excavation work in the immediate vicinity was to cease. Though every precaution was taken to assure that burials were identified before they were physically contacted, an interment was exposed and removed during the survey. Following the inadvertent discovery, AmaTerra archeologists followed the inadvertent discovery plan submitted with the Antiquities Permit application, as approved by the THC (Appendix C).
5  SURVEY RESULTS

AmaTerra archeologists began fieldwork on May 15, 2017. Fieldwork was carried out in three sessions, during which 154 shovel tests and seven backhoe trenches were excavated and all new rail corridor, ROW, support facilities, and station locations were inspected. Field conditions were favorable and dry with no weather-related delays.

Archeologists inspected each proposed bridge replacement location throughout the Corridor project area. However, none were determined to have potential for intact deeply buried archeological deposits due to extensive disturbances from prior cutting and filling within the existing railroad ROW.

Archeological survey findings are presented below by project segment, including summaries of shovel test findings, soil and surface observations, and site descriptions.

5.1  Segment 1 Results

5.1.1  DFW Station

Segment 1 begins at DFW International Airport where the Terminal B Station will be constructed by other parties as part of a separate project. All of the proposed Corridor from Terminal B to the junction within the existing Cotton Belt rail, north of SH 114, has been previously surveyed (Hartsfield et al. 2013). The DFW North terminal, which will be shared with TEX Rail, is included in the previously surveyed section and was, therefore, not surveyed as part of this project. However, a small amount of proposed new ROW was located north and south of the existing railway north of the station, in which 17 shovel tests were excavated (Figure 5-1). None of these tests were positive, encountering only compact black clays. The area south of the new ROW was an undeveloped open field (Figure 5-2). Vegetation north of the ROW was moderately to densely wooded with mesquite trees and secondary undergrowth (Figure 5-3).

5.1.2  Cypress Waters South Option/North Lake Station

The Cypress Waters South Option splits away from the existing Cotton Belt ROW just east of Coppell Road, crossing Southwestern Boulevard. Two areas within the new rail ROW were inaccessible during the survey (Figures 5-4—5-6). However, observations from accessible portions of the ROW and adjacent shovel testing demonstrated a low probability for prehistoric archeological sites for both areas. A previous historic resource survey (Singleton et al. 2013) documented several standing structure sites dating to the 1950s and 1960s in the indirect effects APE within and adjacent to the new rail ROW between Southwestern Boulevard and Coppell Road. None of these were determined to be eligible for listing in the NRHP. Therefore, any archeological resources of historic age present in that area would be of little or no importance for future research.
FIGURE 5-1. DFW STATION, SHOWING NEW ROW AND SHOVEL TESTS.
FIGURE 5-2. OPEN FIELD SOUTH OF NEW ROW

FIGURE 5-3. AREA NORTH OF NEW ROW
FIGURE 5-4. CYPRESS WATERS SOUTH OPTION/NORTH LAKE STATION SHOVEL TESTS.

Redacted:
Sensitive Site Location Information
FIGURE 5-5. CYPRESS WATERS SOUTH OPTION/NORTH LAKE STATION SHOVEL TESTS.
FIGURE 5-6. CYPRESS WATERS SOUTH OPTION/NORTH LAKE STATION SHOVEL TESTS.
During investigations within the Cypress Waters South Option and Cypress Waters Station location, two backhoe trenches and 37 shovel tests were excavated; all of the shovel tests and one of the trenches were negative. Shovel tests encountered compact clay soils uniformly across the survey area, which was mostly undeveloped, though heavily farmed in the past. Southwest of Southwestern Boulevard and Grapevine Creek, channelization was carried out in the 1980s, thus moving the creek west and eliminating any potential for intact sites within the APE in that area. Two backhoe trenches were excavated within the APE on the east side of Grapevine Creek (see Figure 5-4); trench BHT-6 (Figure 5-7) was sterile and contained no artifacts, while BHT-7 contained a filled historic trash dump associated with site 41DL535 (discussed below).

**FIGURE 5-7. 41DL535 SITE MAP.**

5.1.3 Site 41DL535

One archeological site, 41DL535, was identified in Segment 1. This is a historic-age farmstead site located on the east bank of Grapevine Creek south of Southwestern Boulevard. This site consists of a scatter of concrete pipe culverts, displaced concrete slabs and blocks, and an infilled trash dump, which was located during exploratory trenching for prehistoric sites along Grapevine Creek (Figures 5-8). Site 41DL535 is located southwest of a domestic structure drawn on maps dating to 1920 and 1931 (Figure 5-9). Aerial images from 1953 and 1968 (Figure 5-10) indicate that within the APE, the site contained at least two large outbuildings, most likely barns, two roads, and many unidentifiable features, possibly farm equipment scattered throughout the site. The well-developed roads, large number of buildings, large footprint of the operation, and overall size suggest that it was possibly a commercial dairy or poultry farm. This would not be surprising considering that poultry farming was an important industry around Grapevine in the early Twentieth
Century. By 1950 more than 125 poultry farms operated within a 50-mile radius of the town (Solamillo 1997).

FIGURE 5-8. 41DL535 SITE MAP.

Redacted:
Sensitive Site Location
Information

FIGURE 5-9. 41DL535 OVERLAIĐ ON 1920 AND 1931 TOPOGRAPHIC MAPS.

Redacted:
Sensitive Site Location
Information
Surface artifacts and features at sit 41DL535 generally date to the mid Twentieth Century. Several concrete aggregate blocks were observed scattered around the surface. A concrete aggregate slab with a protruding metal pipe that measured six inches in diameter was found near the center of the site (Figure 5-11). Based on the slab’s position, it was clearly not in its original location. Near the center of the site was a fallen utility pole that measured approximately ten feet high and one foot in diameter. The pole was roughly cut and made of cedar and had a transformer box still attached (Figure 5-12). Two culverts were observed at the site, both of which were made of concrete aggregate. Culvert 1 is a pipe culvert that extended five feet in a northwest to southeast direction. The pipe was made of galvanized steel and had a diameter of four feet (Figure 5-13). Culvert 2 is a mostly buried concrete culvert pipe that was exposed at both ends. About four feet of the culvert was exposed on the surface. It was oriented in a northeast to southwest direction. Although circular in shape, there was no metal pipe within the culvert. No wing walls or bottom plate were present. A fence was present on the southern edge of the site. The posts were made of cedar and appear to be hand-hewn. Some of the posts contained pieces of wire meshing. Some fence posts were still vertically set in the ground while others had fallen over. Two glass 7-up bottles and one glass Crush soda bottle were found on the surface next to Culvert 2 (Figure 5-14). One of the 7-up bottles had a 1966 date code on its base.
FIGURE 5-11. CONCRETE SLAB WITH METAL PIPE AT 41DL535.

FIGURE 5-12. UTILITY POLE AT 41DL535.
Backhoe Trench 7 (BHT-7) was excavated within site 41DL535 and encountered a deep, infilled trash pit with artifacts dating to the early and mid-Twentieth Century. The trench was placed approximately 25 meters from the bank of the creek, oriented northeast to southwest, paralleling the creek (see Figure 5-7). Artifacts were first observed starting at approximately 50 cmbs; these were a few shards of colorless glass and brick fragments. The top 50-60 cmbs consisted of two distinct soils and were clearly disturbed. Starting at a depth of about 75 cmbs, in the third stratum, the concentration of artifacts greatly increased and remained dense until the final subsoil stratum was reached at approximately 150 cmbs (Figure 5-15). Dozens of artifacts were observed in the third stratum, especially unidentifiable pieces of metal and
shards of glass.

Identifiable artifacts included: gas and brake pedals and a gear shift from a car (Figure 5-16); pieces of a cast iron stove (Figure 5-17); two large colorless glass jars (broken during trenching); a glass bottle that was probably for cosmetics; bricks; an oil can top dating from 1950s-1960s (Figure 5-18); and ceramics from at least four different vessels (Figure 5-19). While some of these artifacts probably date to the early Twentieth Century, such as the stove and car parts, the later artifacts indicate that this was probably a trash pit that was dug and filled in when the site was abandoned sometime in the 1960s.

Since this tract of land is now a commercial property it has changed hands among real estate companies frequently. Deed research could only trace ownership back to 2013 when PW Commerce Center, LP was the owner. However, additional online research indicates that the farm is possibly associated with the Harrison family. Jonathan B.L. Harrison, born in 1852 “…chose what was later called Harrison Hill as the location for his home. The land overlooked Grapevine Branch, one and a half miles southeast of Coppell, along today’s Southwestern Boulevard near South Belt Line” (Murph and Duggan 2016). A relative, J. Tyler Harrison is documented as owning a small house “across the Grapevine Branch from Harrison Hill” (Murph and Duggan 2016). Although it does not depict the original Jonathan Harrison farm as described above, a map dated from 1915 to 1930 identifies a structure as “John Harrison Rental House” on the west bank of Grapevine Creek, which places the Harrison Hill farm on the east side of Grapevine Creek at the location of site 41DL535, (Coppell Historical Society 2015).

Within the project ROW, site 41DL535 is recommended as ineligible for listing in the NRHP with no further work recommended as part of the Corridor project. Most of the site has been disturbed, and few if any of the artifacts or features are in their original locations. Further archeological work would be unlikely to yield further information. However, future
projects in the vicinity, particularly north of the recorded site boundary, should carefully document the area surrounding the original farmhouse.

FIGURE 5-16. GAS AND BRAKE PEDALS AND GEAR SHIFT FROM BHT-7.
FIGURE 5-17. CAST IRON STOVE PIECES FROM BHT-7.

FIGURE 5-18. BRICK, OIL CAN TOP, AND GLASS BOTTLE FROM BHT-7.
5.2 Segment 2 Results

5.2.1 Equipment Maintenance Facility

The Equipment Maintenance Facility is a 55-acre tract located in the northeast corner of Belt Line Road and Luna Road and bounded on the east by channelized Hutton Branch (Figure 5-20). Historic aerial photographs (Figure 5-21) show that most of the proposed parking facility has been quarried for gravel or deeply cut at some point in the past 50 years and that a small complex of structures was present until sometime prior to 1996. The entire western portion of the EMF was deeply quarried as seen in Figure 5-21 and from surface observations of large push-piles and massive earthworks. Additionally, as seen in the 1996 aerial photograph, what had been an open pasture in the far eastern portion of the area in 1968 was dug deeply enough to retain water, and the area along Hutton Branch has been recently reconfigured to deepen the channel and move it westward. Nine shovel tests were excavated in the area surrounding the structures seen in the 1968 aerial photograph, all of which were negative for artifacts or features. Surface observations and shovel test data show that the area was scraped and covered in asphalt gravels and that modern trash was mixed into the subsoil and deposited on top of the potential historic site in such quantity to overprint any potential features or deposits remaining (Figure 5-22).
FIGURE 5-20. EMF SHOVEL TESTS.
FIGURE 5-21. EMF OVERLAID ON HISTORIC AERIAL IMAGES.

FIGURE 5-22. PART OF EMF COVERED IN ASPHALT.
5.2.2 Downtown Carrollton Station

The Downtown Carrollton Station is located along Denton Drive just northwest of Downtown Carrollton (Figure 5-23). Six shovel tests, all negative, were excavated in the previous larger proposed footprint of the station. This five-acre proposed station location was found to be entirely disturbed by prior cutting and scraping activities (Figure 5-24).

5.2.3 New Mercer Yard Facility

The nine-acre New Mercer Yard Storage Facility (Figure 5-25) is located in Carrollton between Country Club Drive and the existing Cotton Belt rail ROW. Several acres of the proposed yard are within a security fence housing public water supply tanks, while the eastern and western ends taper along the rail ROW. Archeologists excavated 11 shovel tests within the proposed facility, all of which were negative. The surface was found to be largely intact, except for along the Cotton Belt ROW and east of the service entrance to the Maridoe Golf Club (Figure 5-26). While no tests were excavated within the security fence, it is unlikely, based upon adjacent shovel test results that any archeological resources are in that location.

5.2.4 Addison Station

The proposed Addison Station is located entirely within existing Cotton Belt ROW north of Arapaho Road near downtown Addison (Figure 5-27). Five shovel tests, all negative, were excavated in the previous larger proposed footprint of the station. Because the proposed station is located within existing Cotton Belt ROW, it has been entirely disturbed by previous cutting and filling associated with rail construction and utility placement (Figures 5-28 and 5-29).
FIGURE 5-23. DOWNTOWN CARROLLTON STATION SHOVEL TESTS.

Source: 2016 Google Imagery
FIGURE 5-24. DISTURBANCE AT DOWNTOWN CARROLLTON STATION.
FIGURE 5-25. MERCER YARD FACILITY SHOVEL TESTS.
FIGURE 5-26. DISTURBANCE EAST OF MARIDOE GOLF CLUB ENTRANCE.
FIGURE 5-27. ADDISON STATION SHOVEL TESTS.
FIGURE 5-28. DISTURBANCE FROM RAILROAD CONSTRUCTION AT ADDISON STATION.

FIGURE 5-29. SIGN INDICATING GAS LINE IN THE ADDISON STATION ROW.
5.3  Segment 3 Results

5.3.1  Knoll Trail Station

The Knoll Trail Station is located just east of Knoll Trail Drive in Addison (Figure 5-30). The proposed station is located entirely within existing ROW that has been deeply cut for rail drainage (Figure 5-31), and the adjacent rail ROW is densely filled with utilities (Figure 5-32). Therefore, no shovel tests were excavated at this location.

5.3.2  Preston Road Station

The Preston Road Station is located directly east of Preston Road in North Dallas (Figure 5-33). As in Knoll Trail Station, the footprint is entirely within the existing rail ROW, which is heavily disturbed from railroad grading and utility lines (Figure 5-34). Two shovel tests were excavated within and adjacent to the APE, both of which were negative, encountering disturbed soils.

5.3.3  Coit Road Station

The proposed Coit Road Station is located just west of Coit Road in North Dallas (Figure 5-35). This station location consisted of a paved and developed tract of land and a small portion of existing Cotton Belt rail ROW. Because the proposed station is entirely developed or disturbed by rail construction, no shovel tests were excavated.

5.3.4  UTD Station

The proposed University of Texas-Dallas Station (UTD) is located 1,600 feet east of Waterview Parkway on the north side of the existing Cotton Belt rail ROW in Richardson (Figure 5-36). The proposed station location has been heavily quarried and subsequently used for dumping fill materials, leaving only a small area not covered in push-piles at the time of survey (Figure 5-37). Four shovel tests were excavated in areas where surface disturbance was apparently minimal, however all tests found disturbed displaced soils and no artifacts were observed on the surface.
FIGURE 5-30. KNOLL TRAIL STATION LOCATION.
FIGURE 5-31. KNOLL TRAIL STATION DISTURBANCE FROM RAIL DRAINAGE CUT.

FIGURE 5-32. KNOLL TRAIL STATION DISTURBANCE FROM UTILITIES.
FIGURE 5-33. PRESTON ROAD STATION SHOVEL TESTS.
FIGURE 5-34. PRESTON ROAD STATION DISTURBANCE FROM UTILITIES AND RAILROAD GRADING.
FIGURE 5-35. COIT ROAD STATION LOCATION.
FIGURE 5-36. UTD STATION SHOVEL TESTS.
FIGURE 5-37. DISTURBANCE IN APE AT UTD STATION.
5.3.5 South Option New Rail Section

The 4,400-foot long undeveloped portion of the South Option branches from the existing Cotton Belt ROW at Alma Road in Richardson, turning south and crossing Spring Creek and US 75 before turning north again and entering fully developed land at City Line Drive in Plano (Figure 5-38). Throughout this section, the new rail will be located in an 80-foot wide parcel of land already purchased by DART. Twenty-six shovel tests were excavated within the South Option APE, all of which were negative. Construction will require a new rail bridge over Spring Creek and its floodplain, which will require deep disturbances. However, field investigations documented that Austin Chalk and degraded parent material are less than three feet deep throughout the APE (Figure 5-39), eliminating the need for backhoe trenching to search for deeply buried stratified deposits in the area.

5.3.6 City Line / George Bush Turnpike Station

The proposed City Line / George Bush Turnpike Station is within a fully developed commercial / transit area directly adjacent to an existing DART rail platform (Figures 5-40 and 5-41). Because this location was fully developed, no shovel tests were excavated.

5.3.7 L.A. Davis Cemetery

The L.A. Davis Cemetery was established in 1945 as part of the L.A. Davis addition to the city of Plano. Davis purchased 24.2 acres of land in Plano’s Douglass Community from Clyde Groseclose et al. on December 26, 1944 (CCDR 352/34). Most of this land was surveyed and divided into individual house lots that Davis intended to sell to members of the African American community. Approximately one acre in the northeast corner of the addition was set aside for a cemetery. Though most of the land in the addition was sold over the years, the cemetery has remained in the Davis family and is currently owned by Marcellus Davis, grandson of L.A. Davis.

The plat map for the L.A. Davis addition that was filed in April 1945 shows the cemetery’s southeastern boundary as the northwestern boundary of the right of way of the Cotton Belt Railroad (Figure 5-42). Despite this boundary, AmaTerra archeologists were notified by HDR, Inc. that members of the local community had expressed concerns at an August 2016 public meeting that burials could be present within DART ROW south of a recently constructed black chain link fence at the L.A. Davis Cemetery. AmaTerra amended the existing Texas Antiquities Permit to include trenching survey for potential burials within the project area where DART had proposed additional rail north of the existing Cotton Belt alignment (Figure 5-43). The objective was to locate potential burials within the APE prior to construction to identify remains that would need to be avoided by redesign or reinterred in another location.

On May 30, 2017, archeologists met with a backhoe operator on site to begin trenching along the ROW. The first trench (BHT-1) was excavated at the eastern extent of the cemetery frontage, extending nine meters to the south, perpendicular to burials within the
cemetery (Figure 5-44). BHT-1 reached a depth of one meter and encountered a linear disturbance generally paralleling the rails, which is thought to be a waterline trench. This disturbance was followed west from the trench and extended a sufficient distance to satisfy archeologists that it was not a burial shaft.
FIGURE 5-38. SOUTH OPTION NEW RAIL SECTION SHOVEL TESTS.
FIGURE 5-39. UTD SHALLOW AUSTIN CHALK ON THE EAST BANK OF SPRING CREEK.
FIGURE 5-40. CITY LINE/GEORGE BUSH TURNPIKE STATION LOCATION.
FIGURE 5-41. EXISTING DART RED LINE STATION.
FIGURE 5-42. 1945 PLAT MAP OF L.A. DAVIS CEMETERY AND DAVIS ADDITION.
FIGURE 5-43. AERIAL IMAGE OF THE L.A. DAVIS CEMETERY AND DART ROW.
FIGURE 5-44. BHT-1 WITH L.A. DAVIS AND OLD PLANO CEMETERIES IN THE BACKGROUND.
After backfilling the first trench, BHT-2 was placed 30 meters southwest along the fence, positioned to intercept a small depression noted on the freshly mowed ROW surface. This trench had a profile much the same as BHT-1, but encountered a wide column of fill shortly beneath the surface near the surface depression, which tapered inward gradually with depth (Figures 5-45 and 5-46). Thinking that this indicated a filled pit or ditch, or possibly the same utilities trench observed in BHT-1, archaeologists proceeded with backhoe scrapes of about 10 centimeters per pass. At approximately 75 cm (2.5 feet) beneath the surface, decayed pine wood fragments were observed in the trench floor. There were several nails observed and small pieces of unidentified fibrous material (later identified as casket liner) observed in the trench floor. Archaeologists troweled the floor and, finding nothing, used a flat shovel to explore below the wood. Finding no other indications of cultural material and noting that many of the nails were laid over, the material was thought to possibly be construction debris that had been buried in an open ditch. Upon dumping the bucket that was scraped out just prior to observing the wood, clothing and human bones were observed on the backfill pile and work was immediately halted.

Immediately after uncovering the remains, the appropriate parties were contacted (THC, Douglass Community Association president, and the cemetery owner) as laid out in the project’s Inadvertent Human Remains Discovery Protocol submitted to the THC (Appendix C) as part of the Antiquities Permit amendment. An attempt was made to contact the City’s Heritage Preservation Officer, but it was unsuccessful. The Collin County Medical Examiner’s Office (ME) was also notified that human remains had been found and inadvertently removed. The ME’s office asked Plano Police Department, who arrived promptly, to document the scene.

Archaeologists began carefully sorting through soil from the final bucket removed from the trench and found more remains including skull fragments and a child’s teeth as well as fragmented casket liner material, which was later identified as polyurethane flexible foam and polyester batting (Whitley 2017). A concentration of bones was found within a pink polyester dress with white lace trim, indicating that this is the dress the child was buried in. A total of three socks were observed (a fourth was found later when the archaeologists were screening all backfill associated with the remains) suggesting that a second burial may have been superimposed with or directly adjacent to the remains that were unintentionally removed. A fragment of light blue cloth, visible in the eastern trench wall at 80 centimeters (2.6 feet) below the surface may confirm this. Bioarcheological analysis, however, showed that the remains of only one individual were encountered (Whitley 2017).

After inspection by Plano Police and the ME’s office, archaeologists took documentary photos and began sorting and bagging the remains based on type (for casket remains and human remains) or by association - a fabric dress was carefully moved into a bubble wrap-lined box to preserve the association of intact remains within the bundled garment. Efforts were made to retain all bones and bone fragments, fabric, wood, nails, foam, associated with the remains to assist in any future forensic or genetic profiles.
BHT-2 was documented with photos and profile drawings, and GPS shots of the burial location were taken using a sub-meter Trimble handheld unit. After photographing and profiling the trench (see Figure 5-46), and collecting and boxing up all remains and associated items present, the trench was lined across the area where the discovery was made with a blue and silver plastic tarp, which was affixed high (but subsurface) to the trench walls with heavy nails to assist in relocation for potential later reinternment. After backfilling BHT-2, the remains were transported to ME’s office in McKinney and transferred to their custody for storage until reinternment plans could be made with the cemetery owner.

Because of the shallow nature of the burial and because of the high probability of other burials within DART ROW, backhoe trenching was suspended in the vicinity of the Cemetery.

In July 2017, DART contacted Dr. Catrina B. Whitley of Bioarchaeology Support to conduct analysis of the skeletal and casket remains (see full report in Appendix D). Dr. Whitley found that this child died between the ages of seven and thirteen months and was most likely a female, based on the pink dress. Paleopathology analysis showed abnormal periosteal formations and porosity on all long bones, which is indicative of Vitamin C or D deficiency, osteopenia, or severe malnutrition. Specifically, the poorly mineralized bone at the site of muscle attachments on this child’s humeri indicate that she suffered from rickets, a disease caused by Vitamin D deficiency (Whitley 2017).

The casket material and clothing recovered from the burial was used to narrow down a short period of time when this child could have been buried. The polyester batting used in the casket lining was not widely used until after 1960. One of the socks found in the grave was labeled “Cuddle by Princeton” and could be traced to Princeton Knitting Mill in Waterford, Connecticut. The plant was closed in 1961, meaning that the sock could only have been manufactured up until 1961 (Whitley 2017).

A search of death certificates and obituaries found only one female between the ages of seven and thirteen months who was buried in the Davis Cemetery between 1960 and 1965. This person was Vickie Pippens, who died June 20, 1964 at the age of 8 months, 25 days. She died from acute septicemia gastroenteritis and dehydration, which are common complications of Vitamin D deficiency and malnutrition (Whitley 2017). A match cannot be confirmed, however, without identification of the dress or socks by the family or a DNA test.

Deed research on the Davis Cemetery shows it was not deeded as a cemetery until 1945 when L.A. Davis purchased the property along with the Davis Addition of the Douglass Community (Figure 5-42).

Following the inadvertent discovery of human remains at the L.A. Davis Cemetery, DART changed the design of the Cotton Belt Corridor project, removing the alignment adjacent to the cemetery, thus removing the area from the project APE. In August of 2017, DART deeded the portion of ROW immediately adjacent to the L.A. Davis Cemetery. At the time of writing, the L.A. Davis Cemetery was in the planning process to reinter the remains at the discovery location.
FIGURE 5-45. BHT-2 WEST WALL PHOTO.

FIGURE 5-46. BHT-2 WEST WALL PROFILE.
5.3.8 12th Street Station

The proposed Plano 12th Street Station is located along the existing Cotton Belt from the existing elevated DART Red line, which follows the abandoned Southern Pacific / Houston Texas and Central Railroad, across Avenue K, to just east of Municipal Drive from the southern DART ROW to 12th Place (Figure 5-47). Ten shovel tests were excavated within the previous proposed footprint of the station, which extended farther east along the existing rail ROW. All shovel tests encountered heavily disturbed sediments, several with potentially historic-age rubble debris fill blended with modern trash. Heavy and repeated construction activities within the track corridor over time have impacted the area beyond the potential to retain archeological deposits.

Historic Sanborn fire insurance maps and historic photographs and drawings were consulted to identify any potential site locations at the 12th Street Station. Of particular interest was the 1921 Sanborn map, which identified several structures within the station footprint (Figure 5-48). Structures within the footprint include what was then the Saint Louis-Southwestern Rail Station on the north side of the railroad, a railroad section house on East Railroad Street (now J Avenue), a freight loading platform, cotton gin, and several domestic structures south of the tracks, and several domestic structures on Coffey Street (now 12th Place), and an interlocking plant (known as Tower 49, King 2017) in the northwest corner of the H&TC and the Cotton Belt. The section house, discussed further below, was later removed from the APE. The domestic structure and outbuildings along Coffey Street (currently beneath a paved parking lot) most likely have little or no deposits remaining due to commercial structure and parking lot construction and multiple utilities that are located beneath their plotted locations. Shovel tests at the freight loading platform encountered completely disturbed deposits with no artifacts present. The location of Tower 49 as well as a passenger depot and small single-story section house identified on a 1949 Sanborn map have been entirely destroyed by construction associated with the DART overpass, landscaping, and adjacent road and utilities construction.

The locations of the cotton gin and houses south of the Cotton Belt and the rail station and section house to the north were georeferenced using Geographic Information System (GIS) software, and precise coordinates were derived for the corners of the structures as plotted on the 1921 map. Using a sub-meter Trimble GPS receiver, archeologists placed backhoe trenches at several of the corner locations. A trench at the station location found no artifacts, but deep deposits of clean fill material including a thin layer of coal (Figure 5-48), possibly from cleaning a firebox or scattered remains of a coal pile. Additional shovel testing also found no cultural deposits in the vicinity, demonstrating that subsequent rail and utilities activities at the location had destroyed any deposits that remained.

Trenches at the 12th Street Parking facility south of the Cotton Belt documented site 41COL299 on the east side of the property (discussed below) and found that the former cotton gin and residences once on the west side had been completely removed and only rubble and manufacturing debris from Precision Manufacturing Company Co. remained.
Precision Manufacturing purchased the property in the early 1990s and had closed their doors by 2001. Materials observed in the vicinity of the previous cotton gin included metal slag briquettes (most likely drippings from a welding station), metal spills, plate glass, PVC pipe, casting sand blocks, and various industrial debris (Figure 5-50). No apparently historic or cotton processing-related materials were identified in trenches or on the surface.
FIGURE 5-47. 12th STREET STATION SHOVEL TESTS AND BACKHOE TRENCHES.
FIGURE 5-48. 1921 SANBORN FIRE INSURANCE MAP WITH PROPOSED 12TH STREET STATION OVERLAY.

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Sensitive Site Location Information

FIGURE 5-49. BHT-5 SOUTH WALL PHOTO
5.3.9 Site 41COL291

The location identified on the 1921 Sanborn map as “R.R. Section Ho.” was also trenched in an attempt to locate structural corners. The first trench at the location (BHT-3) was placed to try to cross an inside corner of the L-shaped structure. This trench encountered modern fill and trash to over 50 cmbs where a whitish clayey layer was encountered, below which cut nails and historic glass were located. However, no footings or other evidence of a structural foundation were found, and after expanding the trench one bucket-width, it was abandoned. Trench BHT-4 was placed to try to find the western wall of the structure (Figures 5-51 and 5-52). Once again, modern debris and trash were encountered, this time to a depth of 70 to 100 cmbs, below which historic artifacts were numerous, but no footings were identified. The trench was expanded one bucket-width to the west, where at the top
of historic-age deposits, two stacked creosote-soaked hardwood plank footings (Features 1 and 2) were encountered (Figure 5-53). The planks were roughly 3x12 inches in profile by varying lengths and were stacked two wide below and one wide on top (Figure 5-54). Modern trash was found directly above these footings, but only historic-age items were found beside and below them. Artifacts included several cut nails, colorless, olive, and aqua glass, a 1920s-era padlock labeled, “EXCELSIOR 6 LEVER”, a sardine-type can key, a railroad spike, sawed bone, stoneware, whiteware, and multiple brick fragments (Figures 5-55 through Figure 5-58).

Site 41DL291, located across 12th Street from the Cotton Belt tracks and across J Avenue from the former Southern Pacific tracks, has apparently been well preserved by isolation and later surface addition of rubble and fill from an unknown location. A circa 1980s photograph of a post-1930s Cotton Belt/Southern Pacific passenger depot, which was located southwest of the section house, shows a portion of the site behind the station to its left (Figure 5-57). In this photograph, the ground level south of Honesty Automotive’s wall appears to be much lower than at present, indicating that the site was not capped until the 1980s at earliest.

The 1921 Sanborn map used to locate the section house, shows the structure as a two-story house with a single-story wing on the north side. Earlier Sanborn maps show the section house in much the same configuration with the exception of the 1890 Sanborn map, which shows the structure without the northeastern wing (Figure 5-60). An 1891 Plano Birds Eye drawing also clearly shows the section house in this configuration (Figure 5-61). The 1949 Sanborn map (see Figure 5-60) shows an addition of several other outbuildings on the lot.

Based upon its location, appearance in a long stream of maps, placement in relation to the Cotton Belt, and the presence of creosote-treated footings, the structural remains located at site 41COL291 are almost certainly those of the Section Foreman house related to the first construction of the Saint Louis, Arkansas, and Texas Railway (Cotton Belt) that was extended from Commerce to Fort Worth in 1887-88.

After documenting the features, profiling BHT-2, and photographing the site and its components, all artifacts were placed on a piece of cardboard and reburied north of Feature 1 in the trench.

Following survey, the parcel containing site 41COL291 was removed from the project plans and is no longer part of the APE.
FIGURE 5-51. 41COL291 SITE MAP.

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FIGURE 5-52. SITE 41COL291 DEPICTED ON 1921 SANBORN FIRE INSURANCE MAP.

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FIGURE 5-53. FEATURE 1 (LEFT) AND FEATURE 2 (RIGHT) IN BHT-4 ON SITE 41COL291.
FIGURE 5-54. FEATURE 1 IN BHT-4.
FIGURE 5-55. CUT NAILS, SARDINE-TYPE CAN KEY AND OTHER METAL ARTIFACTS FROM BHT-4.

FIGURE 5-56. GLASS ARTIFACTS FROM BHT-4.
FIGURE 5-57. CERAMIC ARTIFACTS FROM BHT-4.

FIGURE 5-58. PADLOCK LABELED “EXCELSIOR 6 LEVER” FROM BHT-4.
FIGURE 5-60. SEQUENCE OF SANBORN FIRE INSURANCE MAPS DEPICTING THE RAILROAD SECTION HOUSE AT SITE 41COL291.
5.3.10 Site 41COL299

The location south of the Cotton Belt containing the “Huguly Cotton Gin” and three houses within the project footprint seen in the 1921 Sanborn map (Figure 5-48) was also investigated to identify archeological deposits. Fourteen backhoe trenches were excavated throughout the property, targeting structures seen on historic maps and aerial photographs. As a result of this effort, site 41COL299 was discovered. Site 41COL299 is a 0.6-acre multi-dwelling historic site containing four features and a scatter of historic-age household debris dating to the early 20th Century (Figure 5-62). A 1949 Sanborn map (Figure 5-63) indicates that three houses along the eastern side of the survey area had replaced the two from 1921 in different locations and that the house formerly in the northwest corner of the area had been displaced by an expansion of the Huguly gin, which had changed hands and been renamed the “Plano Co-Operative Gin” by that time. This arrangement of structures was still largely in place when the first high-resolution aerial photograph of the area was taken in 1968 (Figure 5-64). By 1995, the original north-south alignment of L Avenue had been cut into a curve to accommodate Municipal Drive’s north one-way traffic, at which time all houses along the eastern edge of the property were removed (Figure 5-65). The remains of the commercial structures were removed between 1996 and 2001.

Four features were identified during investigations at site 41COL299, all most likely associated with structures visible in the 1949 Sanborn map and 1968 imagery; no features were found in association with the 1921 plotted locations (Figure 5-66).
Figure 5-62. 41COL299 SITE MAP.

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Figure 5-63. 41COL299 OVERLAID ON 1949 SANBRON MAP.

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Figure 5-64. 41COL299 OVERLAID ON 1968 AERIAL PHOTOGRAPH.

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Figure 5-65. 41COL299 OVERLAID ON 1996 AERIAL PHOTOGRAPH.

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Figure 5-66. 41COL299 FEATURE AND TRENCH LOCATIONS OVERLAID ON THE 1921 SANBORN MAP AND A 1968 AERIAL PHOTOGRAPH.

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Feature 1 was a 55-gallon barrel found at 20 cmbs in trench B-1 buried upright and filled with fine sand at the northwest corner of what would have been the northern-most house in the area (Figure 5-67). The barrel was possibly a makeshift septic tank, installed to replace an outdoor privy or malfunctioning standard septic system. Trench B-1 also contained one cut nail, several round nails, whiteware sherds, and copper and steel pipe.

Feature 2 was a 12 by 12-inch concrete block or pad found level with the surface in the approximate location of an outbuilding visible in the 1968 aerial photograph west of Feature 1. No trenching was done in the vicinity.

Feature 3 was a 4-inch cylindrical reinforced concrete structure pier located near the center of the north wall of the middle house seen in the 1949 Sanborn (Figure 5-68). The pier was damaged during trenching B-3 at 10 cmbs. Other artifacts from trench B-3 included round nails, one cut nail, brick fragments, whiteware sherds, green bottle glass and a fragment of concrete with ¼-inch hardware cloth inside it (most likely from an adobe-like skirting around a pier and beam house).

Feature 4 is an 8 by 12-inch bois d’arc wood block found slightly tilted at 10 cmbs located while excavating trench B-5, which traced the east side of an outbuilding west of the middle house (Figure 5-69). Bois d’arc is a weather-resistant wood historically used almost exclusively for outdoor applications including foundation piers (Gallardo and Mims 2010.) Several large round nails were “toenailed” to one end of the block, suggesting that it may have been attached to the bottom of a shed wall as a pier. Nearby artifacts from trench B-5 included whiteware, a small porcelain insulator, stoneware, an intact “3 RIVERS ★” cork-stop clear glass medicine bottle dating from 1922-1937 (Figure 5-70, Hinson 1996), a shoehorn, an automotive piston rod and suspension parts, a chrome plated key, and brick fragments.

Soils at 41COL299 were consistent through all trenches, with black Houston series clay underlain by lighter colored clay with decayed bedrock fragments by 60 cmbs (Figure 5-71) and very little mixing was evident. Artifact quantities were relatively sparse despite the long timeframe of occupation and number of houses and outbuildings which had been present at the location. This, along with the ephemeral nature of features encountered, suggests that the site’s surface and shallow upper deposits were scraped and hauled away following demolition in the mid-1990s. The presence of cut nails suggests that they may have been at least partly used in the construction of the pre-1921 dwellings, but their small number also points to an extensive cleanup either before the construction of the later houses or during the 1990s site cleanup.

The property on which site 41COL299 sits is currently owned by the City of Plano and is located in Block 1 of the Vendome Place Addition to Plano. The Vendome Place Addition was platted in 1909; the original plat map does not indicate that any specific individuals owned the property at the time. In 1930 Irene Haggard Beddell purchased the entirety of Block 1 of the Vendome Place Addition from her father, W.O. Haggard (CCDR 277/405). W.O. Haggard was the son of Clinton Shepherd Haggard, an early land holder in the region. Deed records showing how W.O. Haggard acquired the property could not be found; however, the deed from W.O. Haggard to Irene Haggard Beddell notes that this is part of an original tract of 94 acres sold from J.T. Cole to J.H. Hutton in 1911 (CCDR 186/371). Since this tract is so large, it was probably undeveloped urban
land or farmland in 1911. Since the entire block was sold together in 1930, it is also likely that all houses on this block were owned by one individual and occupied by tenants during the early occupation period relevant to the site. In 1949 Plano Cooperative Gin, Inc. bought two of the Vendome Place tracts that overlap 41COL299; in 1951 they sold these tracts and two others in the Plano Original Donation to C. B. Hasford (CCDR 439/279). It is therefore likely that the houses were occupied either by employees of the gin or by tenants renting from the gin during the later occupation period of the site. By the early 1990s Precision Manufacturing Company Co. owned all the property in and around 41COL299 until 2001 when the remaining commercial buildings were removed.

Figure 5-67. 41COL299 FEATURE 1, TRENCH B-1.
Figure 5-68. 41COL299 FEATURE 3, TRENCH B-3.

Figure 5-69. FEATURE 4, TRENCH B-5.
Figure 5-70. SAMPLE OF ARTIFACTS FROM TRENCH B-5.

Figure 5-71. TYPICAL SOIL PROFILE AT 41COL299, TRENCH B-8.
5.3.11  Shiloh Road Station

The proposed Shiloh Road Station is located directly west of Shiloh Road and south of the existing Cotton Belt rail ROW in east Plano (Figure 5-72). The Shiloh Road station consists of 10.5 acres of undeveloped land with a power substation facility located on the north end (Figure 5-73). Prior land use is agricultural, but nearly all of the 17 shovel tests excavated at this location found completely disturbed soils, indicating that grading most likely took place in the recent past, possibly as part of preparing the surrounding commercial parking lots. No artifacts were observed at this location on or beneath the surface.
FIGURE 5-72. SHILOH ROAD STATION SHOVEL TESTS.
FIGURE 5-73. SHILOH ROAD STATION AREA OVERVIEW.
6 SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS

6.1 Summary

In May, June, and September of 2017, archeologists from AmaTerra Environmental, Inc. conducted an intensive archeological resource survey of a 26.2-mile segment of existing Cotton Belt railroad and 5.9 miles of proposed new rail alignment associated with DART’s Cotton Belt Corridor Project in Tarrant, Dallas, and Collin Counties, Texas. The project area includes improvements within the existing Cotton Belt ROW, two new rail alignment sections, 11 new station locations, one new maintenance facility, and one new storage facility. The project is sponsored by DART with shared funding and regulatory oversight from the FTA, necessitating compliance with the ACT and requiring consultation under Section 106.

Archeological investigations, conducted under Texas Antiquities Permit No. 7996, consisted of a pedestrian survey of 173 total acres, manual excavation of 154 shovel tests, and excavation of seven backhoe trenches within the project area. The existing rail ROW was found to be entirely disturbed and bridge replacements are unlikely to impact undocumented archeological sites. Therefore, only new rail, station, and support facility ROW were subject to intensive survey.

Three newly documented archeological sites were discovered during field investigations. Site 41COL291, a railroad section foreman house most likely constructed by the St. Louis, Arkansas, and Texas Railway in the late 1880s, was discovered within the proposed Plano 12th Street Station footprint. The site consists of apparently intact deposits along with stacked creosote plank footings for the building. Site 41COL299 is a historic-age site located south of the 12th Street Station in a proposed parking facility. The 0.6-acre site has had five domestic dwellings on it dating from prior to 1921 to the mid-1990s. Four features (three structural footings and one possible septic tank) were identified during field survey, which included ten backhoe trenches excavated within the site. The site contains sparsely-scattered domestic debris ranging in age from the early to mid-20th Century. Site 41DL535, a historic-age farmstead site, is located on the east side of Grapevine Creek where a new bridge will be constructed on the proposed Cypress Waters route. This site consisted of three features, displaced concrete pads, and an infilled trash dump containing debris dating to the early Twentieth Century. Archival research found that the site was mostly likely the family farm of J. B Harrison, a prominent late 1800s local businessman in Coppell. However, the site is marginal to the original farmhouse location and was most likely not used as part of the farm’s operation until the 1940s or 50s.

The survey encountered and unintentionally removed human remains within DART ROW south of the L.A. Davis Cemetery in East Plano where additional rail was proposed north of the existing DART-owned Cotton Belt line. Immediately after the removal, AmaTerra
archaeologists followed the Inadvertent Human Remains Discovery Protocol (Appendix C) on file with the THC as part of the Antiquities Permit for this survey. The remains are thought to be those of an unknown small child, buried during the mid to late Twentieth Century. DART modified the project design in the vicinity and has established that no work will be done outside the existing rail corridor at that location. The remains are currently being held at the Collin County Medical Examiner’s Office where they await reinternment at the L.A. Davis Cemetery.

6.2 Recommendations

Site 41DL535 is recommended as ineligible for listing in the NRHP within the current APE. The features and artifacts observed generally lack horizontal or vertical integrity and are unlikely to yield important historical information. Although the farmhouse to the northeast may be associated with a family important to local history, the components of the site within the current APE, date to a later time period and are probably unassociated with the Harrison family. Therefore, no further archeological work is necessary.

Site 41COL291 is recommended as eligible for listing in the National Register of Historic Places (NRHP) with further detailed testing recommended prior to any activities that may impact deposits. Based on two backhoe trenches excavated within the site, significant structural remnants of the section house that once stood there remain intact below a deep layer of fill that was deposited over the site sometime in the 1980s. Modern cultural material was observed in the fill until immediately above the wooden footings (Features 1 and 2); however, at the depth of the footings and below, only historic artifacts were observed. These artifacts included diagnostics (square cut nails and a padlock) that date to the period of significance when the structure was used to house Cotton Belt foremen and their families. This indicates that the site has retained its vertical integrity. The observed artifacts and features also exhibited excellent preservation.

Site 41COL291 is closely associated with the expansion of the Cotton Belt railroad, which was a major factor in the economic and population growth of Plano (Criterion A). Further archeological investigations of the site are likely to produce information about the lifeways of the people who occupied the house between the mid-1880s and the 1950s when the railroad abandoned the use of section houses (Criterion D). Furthermore, the original section foreman house associated with the Cotton Belt railroad in Grapevine has been preserved in its original configuration and would make a useful comparison for the archeological remains uncovered at 41COL291. Following fieldwork, site 41COL291 was removed from the project plans is no longer part of the APE for the Cotton Belt Project.

Site 41COL299 is located south of the Cotton Belt in an area planned for a parking facility. Although several features were identified within the site, artifacts are sparsely scattered. It is thought that the bulk of material was scraped and removed from the site during demolition in the mid-1990s. Because of the apparently truncated archeological record and
limited quantity of artifacts present, there is no potential for future work and site 41COL299 is recommended as ineligible for listing in the NRHP.

6.3 Conclusions

AmaTerra recommends that the project proceed under the current design. All fieldwork and reporting procedures were carried out under the Antiquities Code of Texas and Section 106 of the National Historic Preservation Act; all work conforms to guidelines set forth under 36 CFR Part 800 and 13 TAC Chapter 26. No artifacts were collected during investigations. All field records generated during fieldwork will be curated and permanently housed at the Center for Archeological Studies at Texas State University in San Marcos, Texas.
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APPENDICES

8.1 APPENDIX A — Detailed Project Maps
8.2 APPENDIX B — Shovel Test Log

Redacted:
Sensitive Site Location
Information
Redacted:

Sensitive Site Location Information
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Sensitive Site Location Information
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Sensitive Site Location Information
8.3 APPENDIX C — Burial Protocol
Attachment 3. Inadvertent Human Remains Discovery Protocol

ARCHEOLOGICAL SURVEY OF THE PROPOSED DART COTTON BELT LINE FRONTAGE
AT THE L.A. DAVIS / OLD PLANO CEMETERY PLANO, COLLIN COUNTY, TEXAS

Protocol for Protection and Treatment of Human Burial Remains

Historic human burials and cemeteries shall be treated in accord with provisions of the Texas Health and Safety Code (Title 8, Subchapter C, Chapter 711.036(a)) in addition to the requirements of the Antiquities Code of Texas and Section 106 of the National Historic Preservation Act. Historic Native American burials and cemeteries shall also be treated under this protocol. These laws require that any and all exhumation, handling, treatment, and reburial of human burial remains be done with dignity and respect for the individual.

In the event that human remains or funerary objects are discovered in the course of the project, all ground-disturbing work at that location will be stopped and the City’s Heritage Preservation Officer (Bhavesh Mittal, 972-941-7151), the Douglass Community Association’s president (Takisha Voss, 469-685-4442), representatives of Dallas Area Rapid Transit (DART), and the Texas Historical Commission (THC) will be notified immediately. Upon this notification, City and DART officials will work with the THC and members of the affected community in developing a plan for the appropriate and respectful identification, analysis, and treatment of the human remains.

At the time of discovery, all exposed human remains will immediately be covered with light weight plastic sheeting and reburied under a shallow blanket of soil to prevent unnecessary exposure while a final determination is made regarding treatment of the discovered remains. DART will ensure that the discovery site is secured and protected from damage or vandalism 24-hours per day, every day until final plans are implemented to avoid or relocate the burial remains. Individuals or groups not directly involved with the archeological investigations should not be allowed to view, handle, or photograph human remains, except by authorization of the THC, in consultation with the City and Douglass Community.

After discovery, further exploratory investigations may be performed around the discovery site within the project limits to determine whether other burials are present nearby. The purpose of these investigations will be to determine whether the burial is an isolated occurrence or part of a larger group of burials associated with the adjacent L.A. Davis Cemetery. DART has determined that the rail facility cannot be moved to avoid impacts to human burials in this area. Any identified human remains will therefore need to be exhumed and relocated upon discovery.

If official determinations are made to exhume and relocate the discovered human remains, burial removals will comply with the Texas Health and Safety Code (Title 13, Subchapter C, Chapter 711.036(a)) and the Texas Administrative Code Title 13, Part, 2 Chapter 22.5. All human remains and funerary objects shall be carefully removed using manual archeological techniques under a burial exhumation plan approved by the THC, and the City of Plano. This plan shall include field and laboratory methods in accord with professional standards for documenting objects recovered during archeological excavations and shall include photographs, drawings, and notes. Such documentation and associated physical anthropological studies shall serve as a basis to determine cultural, ethnic, or racial affiliation. If the City and State determine that additional analytical techniques are required, those techniques will be non-destructive and will be performed under the direction of a professional physical anthropologist.
8.4 APPENDIX D — Analysis of Human Remains Unintentionally Disinterred at the L.A. Davis Cemetery
Cotton Belt Corridor Regional Rail

L.A. Davis Cemetery
Analysis of a Burial Unintentionally Disinterred During Archaeological Investigations on May 30, 2017

PLANO, TEXAS

Catrina Banks Whitley, PhD
Principal Investigator

Prepared for:

Dallas Area Rapid Transit
1401 Pacific Avenue
Dallas, Texas 75202

Submitted by:

Bioarchaeology Support
PO Box 122
Midlothian, Texas 76065

Cultural Resources Report 2017-Draft August 25, 2017
ABSTRACT

On May 30, 2017, as part of a cultural resources survey, AmaTerra Environmental, Inc., unintentionally disinterred skeletal remains and casket remnants while trenching adjacent to the L.A. Davis Cemetery in Plano. The remains were in the Dallas Area Rapid Transit (DART) right-of-way (ROW). They were encountered 250 feet northeast of the 10th Street crossing and 40 feet northwest of the existing rails (Butler and Goldstein 2017).

At approximately 2.5 feet below the surface, the remains of a casket were observed in the trench. A polyester sock containing skeletal elements was found upon dumping the backhoe bucket. The bucket contained sediments from the last scrape before finding the coffin fragments. The AmaTerra archaeological crew sorted through the back dirt to recover the disinterred skeletal elements and casket material. AmaTerra Environmental Inc. contacted the Collin County Medical examiner's Office and The Texas Historical Commission after confirming the presence of human remains. After consultation, the remains were sent to Heavenly Gate Funeral Services in Garland, Texas, while awaiting reinterment.

DART contacted Bioarchaeology Support in July 2017 about analyzing the skeletal remains and casket materials found during trenching by AmaTerra Environmental, Inc. Bioarchaeology Support was asked to identify, when possible, the age-at-death, sex, ancestry, and pathological conditions of the human skeletal remains, identify the casket materials and personal clothing items, try to identify a time frame in which the individual was buried, and identify the individual. Bioarchaeology Support sought to identify the individual by searching death certificates, obituaries, and information provided by the Douglass Community.

Skeletal analysis indicates the individual was between 7 months and 13 months of age-at-death; average age was 10 months. Clothing and casket material narrows the burial of the individual to the 1960s. The presence of polyester flexible foam and polyester batting indicate the burial occurred after 1960 and the sock with "Cuddle by Princeton" printed on the bottom, limits the burial to the early to mid 1960s because the manufacturing company, Princeton Knitting Mills, Inc., merged with Burlington Industries, Inc. in the late 1950s-early 1960s and the plant closed in 1961.

Records research identified one child, approximately 10 months old, to be buried in the Davis Cemetery in the 1960s. The death certificate indicates Vickie Pippins died June 20, 1964 aged 8 months 25 days. Although the age-at-death, period, and place buried are consistent with the individual found, confirmation can only be obtained with identification by the family of the dress and socks or by DNA analysis.
ACKNOWLEDGEMENTS

My thanks go to Kailey Hunt and Cleo Grounds for access to the archaeological report and community information. Thank you to Timothy Jefferson and Heavenly Gate Funeral Services for providing a location for the remains and casket materials analysis. I am indebted for the use of their facilities. I am also ever so grateful that Cleo Grounds gave Kailey Hunt the opportunity to assist in the analysis and that she was willing to participate.
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INTRODUCTION

On May 30, 2017, AmaTerra unintentionally disinterred skeletal remains and casket remnants during archaeological testing. The remains were disinterred from the Dallas Area Rapid Transit (DART) right of way (ROW) approximately 40 feet northwest of the existing rails and 250 feet northeast of the 10th Street crossing along the Cotton Belt Regional Rail Corridor (Figure 1). The ROW was south of the L.A. Davis Cemetery in Plano, Texas.

The L.A. Davis Addition to the city of Plano, Collin County, Texas was deeded to L.A. Davis from Clyde Groseclose December 26, 1944 (Collin County deed records Vol. 352, page 34). The cemetery consists of six surveyed and platted blocks off the southern end of the Old Plano Cemetery, Plano, Texas. The plat shows the blocks and grave plots did not extend into the boundary of the Cotton Belt Rail Road ROW. A 24 ft. buffer is indicated on the map between the boundary line of the ROW and the nearest grave plots.

AmaTerra Environmental, Inc. archaeologists were trenching to assess whether burials might be present in the ROW. The archaeologists noticed a depression and chose to investigate that location. It was the second trench excavated near the cemetery. After careful scraping, evidence of a coffin was found 2.5 feet below the surface. Shovel scraping did not reveal the presence of a casket or skeletal remains. Remains and casket materials were found in the back dirt pile after the bucket was dumped. AmaTerra archaeologists carefully sifted through the back dirt pile to recover skeletal remains, casket hardware and materials, and personal items. (Butler and Goldstein 2017).

DART contacted Bioarchaeology Support in July 2017 regarding analysis of the skeletal remains and casket materials. Bioarchaeology Support was asked to identify, where possible, the age-at-death, sex, ancestry, and pathological conditions of the human skeletal remains, identify the casket materials and personal clothing items, try to identify a time frame in which the individual was buried, and attempt to identify the individual or potential matches. Bioarchaeology Support utilized death certificates, obituaries, and information provided by the Douglass Community as mean to find a possible identification.

Project Sponsor: Dallas Area Rapid Transit
Principal Investigators: Catrina B. Whitley, PhD
Analysis Team: Catrina Banks Whitley, with assistance of Kailey Hunt
Analysis Performed: August 14, 2017
Analysis Location: Heavenly Gate Funeral Services, Garland, Texas.
Figure 1. The location of the L.A. Davis Cemetery, Plano, TX. 7.5' USGS map.
BIOARCHAEOLOGICAL ANALYSIS

Sorting Skeletal Elements

Heavenly Gate Funeral Services provided space for the sorting and analysis of skeletal elements and the casket materials. AmaTerra placed the remains and casket materials into 6 bags and one box. Sediment from the burial was also included because many of the casket materials were adhered to larger clumps of sediment. Casket materials were catalogued by bag number. Each bag was sorted and screened using a 1/16 in. mesh screen. Casket materials were photographed by the bag. Skeletal elements found in the bags were sorted but not tracked by bag number. The box contained the polyurethane foam, dress, socks, and numerous skeletal elements still contained within the dress and socks. The remains were removed from the dress and the skeletal elements were laid out on the table in anatomical order. A thorough inspection of the dress construction and search for a label was conducted. The dress did not have a label. The socks were photographed before and after being washed. Gentle washing occurred to assist in deciphering the print on the bottom of the sock. These socks were placed in the grave, but not on the feet of the deceased.

Methods

Osteological data collection followed the guidelines set forth by Buikstra and Ubelaker (1994). Analyses included the collection of data on the condition of each skeletal element, sex, ancestry, age estimations, cranial and post-cranial metrics, dental pathology, dental non-metrics, and pathology. Skeletal elements with evidence of pathological changes were inspected under a 10-x magnifying glass.

Age

Age estimations were obtained using long bone lengths and dental development. Friable epiphyses of some long bones precluded accurate measurements of several long bones. Crown, root, and apex formation was scored for each tooth and compared to dental development charts. Femoral lengths were also compared to dry bone postnatal charts to assess age (Schaefer, Black, and Scheuer 2009:144; Black and Scheuer 1996). Humeral and femoral age was based on data from radiographic postnatal measurements (Schaefer, Black, and Scheuer 2009:174).

Pathology

Pathological changes were recorded with descriptions of each pathological incidence written in narrative style on a pathology form. All pathological changes were analyzed using a 10x handheld lens.
Dentition

Dental data were collected according to standards in Buikstra and Ubelaker (1994). Visual recording forms for permanent and deciduous dentition included observation of wear, caries, calculus deposits, and tooth presence. Dental observation forms included data collection on presence, calculus formation, hypoplasia type and metric location, caries location and size, dental modifications, and any other anomalies. Wear, caries, calculus, and dental modification were not present in the dentition.

BURIAL DESCRIPTION

Skeletal Remains

The disinterred grave contained the remains of female infant 10 months ±3 months.

Mortuary Characteristics

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Interment</td>
<td>1960s</td>
</tr>
<tr>
<td>Burial Shaft Size</td>
<td>Unknown</td>
</tr>
<tr>
<td>Wood Arch</td>
<td>Unknown</td>
</tr>
<tr>
<td>Outer Box</td>
<td>Unknown</td>
</tr>
<tr>
<td>Items of Note in</td>
<td>No</td>
</tr>
<tr>
<td>Grave Fill</td>
<td></td>
</tr>
<tr>
<td>Coffin Description</td>
<td>Cloth or wood veneer covered casket. The casket frame was of knotty pine and covered with polyester batting and cloth or wood veneer. The base and sides were lined with polyester flexible foam. No fabric between the infant's dress and the foam was evident and the dress clung to the foam.</td>
</tr>
<tr>
<td>Painted</td>
<td>No</td>
</tr>
<tr>
<td>Viewing Window</td>
<td>No</td>
</tr>
<tr>
<td>Hardware</td>
<td>Stop Hinge and catch</td>
</tr>
<tr>
<td>Mortuary Artifacts</td>
<td>Various wire nails, barbed wire, polyester batting, polyurethane flexible foam, straight pins, tacks, staples, and a floral pin</td>
</tr>
<tr>
<td>Wood preservation</td>
<td>Poor</td>
</tr>
<tr>
<td>Personal Items</td>
<td>Handmade polyester Dress, Socks with illegible writing that were on the feet of the individual at the time of burial, and socks placed in the grave with imprint &quot;Cuddle by Princeton, 100% stretch nylon, 8&quot;, made in USA, fit sizes 3-4.</td>
</tr>
</tbody>
</table>

Osteological Characteristics
L.A. DAVIS CEMETERY - ANALYSIS OF HUMAN REMAINS IN THE DART ROW

Skeletal Preservation: Good
Sex: Female, based on the presence of a dress. Sexing skeletal remains of juveniles provides inconsistent results and was not utilized
Age-at-Death: 10 ± 3 months
Biological Affinity: Unable to determine on an individual of this age
Dental Pathology/Anomalies/Modification: None observed
Pathology: Periosteal formation and porosity: extending distal from the head of right humerus (19.26 mm), porosity is present on the left humerus, but unable to obtain a measurement due to post-mortem damage, proximal left (21.76mm) and right (19.80mm) ulnae, proximal right tibia (13.02mm), distal right tibia (14.37mm), and proximal left tibia (11.76 mm).
### L.A. Davis Cemetery - Analysis of Human Remains in the DART Row

**Table 1. List of Skeletal Elements and Age-at-Death Estimates.**

<table>
<thead>
<tr>
<th>Bone</th>
<th>Portion</th>
<th>Side</th>
<th>No.</th>
<th>Condition*</th>
<th>MNI Individual</th>
<th>Measurement</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cranium</td>
<td>fragments</td>
<td>15</td>
<td>2</td>
<td>unknown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clavical</td>
<td>right</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>52.58 mm</td>
<td>7-12 mo.</td>
<td></td>
</tr>
<tr>
<td>Femur</td>
<td>proximal epiphysis</td>
<td>unk</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fibula</td>
<td>right</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frontal</td>
<td>right orbit</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humerus</td>
<td>left</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humerus</td>
<td>right</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>96.7L, 24.28W, 8.38D</td>
<td>6m-1yr</td>
<td></td>
</tr>
<tr>
<td>Ulna</td>
<td>right</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>84.48L, 6.71D</td>
<td>6m-1yr</td>
<td></td>
</tr>
<tr>
<td>Ulna</td>
<td>left</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radius</td>
<td>right</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ilium</td>
<td>left</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ilium</td>
<td>right</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>46.35L, 45.34 W</td>
<td>10-12 mo, 7-9 mo.</td>
<td></td>
</tr>
<tr>
<td>Ischiium</td>
<td>left</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>27.34L, 17.86W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ischiium</td>
<td>right</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pubis</td>
<td>left</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>24.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pubis</td>
<td>right</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>24.76</td>
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<tr>
<td>Femur</td>
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<td>1</td>
<td>1</td>
<td>123.93L, 8.9W, 23.17D</td>
<td>6m-1yr</td>
<td></td>
</tr>
<tr>
<td>Femur</td>
<td>left</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>8.77W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tibia</td>
<td>left</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>96.23L, 9.57D</td>
<td>6m-9m</td>
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<tr>
<td>Tibia</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scapula</td>
<td>right</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scapula</td>
<td>left</td>
<td>1</td>
<td>2</td>
<td>1</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Ribs</td>
<td>right</td>
<td>12</td>
<td>2</td>
<td>1</td>
<td>plus 7 fragments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ribs</td>
<td>left</td>
<td>11</td>
<td>2</td>
<td>1</td>
<td>plus 2 fragments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cervical vertebrae</td>
<td>body</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thoracic vertebrae</td>
<td>body</td>
<td>12</td>
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<td></td>
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</tr>
<tr>
<td>Lumbar vertebrae</td>
<td>body</td>
<td>5</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Transverse processes</td>
<td></td>
<td>27</td>
<td></td>
<td>4 fused</td>
<td>~1 year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sacrum</td>
<td>centrum</td>
<td>3</td>
<td>unknown</td>
<td>unfused</td>
<td>&gt;1 year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sacrum</td>
<td>neural arch and ala</td>
<td>5</td>
<td></td>
<td>unfused</td>
<td>&gt;1 year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metacarpals</td>
<td>unk</td>
<td>5</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
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<td>unk</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
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<td>right</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metatarsals</td>
<td>left</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phalanges foot</td>
<td>right</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phalanges foot</td>
<td>left</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deciduous Dentition</td>
<td>Maxillary</td>
<td>right</td>
<td></td>
<td>II, I, C, M1, M2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deciduous Dentition</td>
<td>Maxillary</td>
<td>left</td>
<td></td>
<td>II, I, C, M1, M2</td>
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<td>Mandibular</td>
<td>right</td>
<td></td>
<td>II, M1, M2</td>
<td></td>
<td></td>
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<tr>
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<td>Mandibular</td>
<td>left</td>
<td></td>
<td>M1, M2</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Permanent Dentition</td>
<td>Maxillary</td>
<td>right</td>
<td></td>
<td>M1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent Dentition</td>
<td>Maxillary</td>
<td>left</td>
<td></td>
<td>M1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent Dentition</td>
<td>Mandibular</td>
<td>right</td>
<td></td>
<td>II in crypt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent Dentition</td>
<td>Mandibular</td>
<td>left</td>
<td></td>
<td>II in crypt</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1=>75%, 2=25-75%, 3=<25%
L = Length, W = Width, D = Diameter
MNI = minimum number of individuals
Table 2. List of Dentition and Age-at-Death Estimates

<table>
<thead>
<tr>
<th>Dentition</th>
<th>Tooth</th>
<th>Length</th>
<th>Approx age in months</th>
<th>Omiyam</th>
<th>Code</th>
<th>Age year</th>
<th>Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maxillary Right</td>
<td>m2</td>
<td>6.01</td>
<td>0.85 ± 0.26</td>
<td>10.0</td>
<td>D</td>
<td>0.78 ± 0.26</td>
<td>10.2 ± 3</td>
</tr>
<tr>
<td></td>
<td>m1</td>
<td>6.06</td>
<td>0.53 ± 0.25</td>
<td>6.4</td>
<td>E</td>
<td>0.70 ± 0.12</td>
<td>6.4 ± 1</td>
</tr>
<tr>
<td></td>
<td>c</td>
<td>6.98</td>
<td>0.81 ± 0.22</td>
<td>9.7</td>
<td>E</td>
<td>1.07 ± 0.28</td>
<td>9.7 ± 3</td>
</tr>
<tr>
<td></td>
<td>l2</td>
<td>8.94</td>
<td>0.79 ± 0.17</td>
<td>9.4</td>
<td>F</td>
<td>0.96 ± 0.32</td>
<td>9.4 ± 4</td>
</tr>
<tr>
<td></td>
<td>l1</td>
<td>9.66</td>
<td>0.74 ± 0.19</td>
<td>8.9</td>
<td>F</td>
<td>0.98 ± 0.23</td>
<td>8.9 ± 3</td>
</tr>
<tr>
<td>Maxillary Left</td>
<td>i2</td>
<td>8.68</td>
<td>0.75 ± 0.17</td>
<td>9.0</td>
<td>F</td>
<td>0.96 ± 0.32</td>
<td>9.0 ± 4</td>
</tr>
<tr>
<td></td>
<td>c</td>
<td>7.29</td>
<td>0.88 ± 0.22</td>
<td>10.5</td>
<td>E</td>
<td>1.07 ± 0.28</td>
<td>10.5 ± 3</td>
</tr>
<tr>
<td></td>
<td>m1</td>
<td>6.11</td>
<td>0.54 ± 0.25</td>
<td>6.5</td>
<td>E</td>
<td>0.70 ± 0.12</td>
<td>6.5 ± 0</td>
</tr>
<tr>
<td></td>
<td>m2</td>
<td>6.37</td>
<td>0.96 ± 0.26</td>
<td>11.5</td>
<td>D</td>
<td>0.78 ± 0.26</td>
<td>11.5 ± 3</td>
</tr>
<tr>
<td>Mandibular Left</td>
<td>m2</td>
<td>6.83</td>
<td>1.09 ± 0.26</td>
<td>13.1</td>
<td>D</td>
<td>0.92 ± 0.26</td>
<td>13.1 ± 3</td>
</tr>
<tr>
<td></td>
<td>m1</td>
<td>7.97</td>
<td>0.96 ± 0.25</td>
<td>11.5</td>
<td>E</td>
<td>0.78 ± 0.25</td>
<td>11.5 ± 3</td>
</tr>
<tr>
<td></td>
<td>c</td>
<td>8.09</td>
<td>0.66 ± 0.17</td>
<td>7.9</td>
<td>F</td>
<td>0.96 ± 0.32</td>
<td>7.9 ± 4</td>
</tr>
<tr>
<td>Mandibular Right</td>
<td>i2</td>
<td>7.69</td>
<td>0.89 ± 0.25</td>
<td>10.7</td>
<td>E</td>
<td>0.78 ± 0.25</td>
<td>10.7 ± 3</td>
</tr>
<tr>
<td></td>
<td>i1</td>
<td>6.48</td>
<td>0.99 ± 0.26</td>
<td>11.9</td>
<td>D</td>
<td>0.92 ± 0.26</td>
<td>11.9 ± 3</td>
</tr>
<tr>
<td>Permanent</td>
<td>U1(M1)</td>
<td>3.81</td>
<td>0.88 ± 0.25</td>
<td>10.6</td>
<td>A</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>U2(M2)</td>
<td>3.71</td>
<td>0.83 ± 0.25</td>
<td>10.0</td>
<td>A</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>U3(M3)</td>
<td>3</td>
<td>0.56 ± 0.21</td>
<td>6.7</td>
<td>C</td>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td>Average age</td>
<td>0.82</td>
<td>9.8</td>
<td>9.8 ± 3</td>
<td>9.8 ± 3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Infant’s age is between 7-13 months

Paleopathology

Abnormal porosity extending more than 10 mm from the epiphyses is present on all of the long bones (Figure 2, Figure 3, and Figure 4). Periosteal formation and porosity extends between 11.76 to 32.76 mm from the epiphyses (Table 1). These changes are the result of metabolic disturbances, such as vitamin C deficiency (scurvy), vitamin D deficiency (rickets), osteopenia, or severe malnutrition (Ortner 2003). Poorly mineralized bone at the site of muscle attachments, which is evident on the humeri, are considered diagnostic for rickets (Brickley and Ives 2008). Rickets is the result of a vitamin D deficiency and can cause deformation of the long bones because it softens bones. Children with vitamin D deficiencies can have co-morbid illnesses and gastroenteritis or bronchopneumonia are frequently associated with vitamin D deficiencies (Salimpour 1975). The differential diagnoses include scurvy, osteopenia, and malnutrition. Malnutrition is not only caused by a lack of food, but also the individual’s inability to absorb certain types of foods, sometimes caused by chronic illness. Limited food types, such as a diet focused on corn/wheat or the inability to obtain fresh fruits and vegetables in the winter, can also result in nutritional deficiencies and malnutrition.
Redacted:
Culturally Sensitive Material

Figure 2. Periosteal reactions and porosity on the humerus and femur.

Redacted:
Culturally Sensitive Material

Figure 3. Periosteal reactions and porosity on the long bones.
Redacted:
*Culturally Sensitive Material*

Figure 4. Periosteal reactions and porosity on the ulnae.
ARTIFACT ANALYSIS

Clothing

Dress

The infant was buried in a pink polyester dress with white/pink lace trim. Three rows of white/pink lace trim were sewn onto the bottom of the dress. It is probable the dress was hand made due to the lack of tags (Figure 5). The sewing thread was degraded cotton thread. The condition of the thread resulted in the dress separating along the seams. The infant was not wearing underwear or a diaper.

One button was found at the nape of the neck of the dress. It was a two hole shell button of unknown material. It is a size 14L.

Figure 5. Hand made polyester dress with lace trim.
Figure 6. Infant socks.

Figure 7. Cuddle by Princeton sock for. Inscription: Cuddle by Princeton, 100% STRETCH NYLON, ___8___ MADE USA, FIT SIZES 3-4.
Socks

Two pairs of socks were recovered. One pair was placed on the feet of the individual. This pair had no legible writing (Figure 6). The second pair had writing on the sole and the cuffs were folded down. The inscription read "Cuddle by Princeton, 100% Stretch Nylon, Made USA, Fit Sizes 3-4" (Figure 7). Size 3-4 infant socks fits infants 6-12 months.

Casket Materials

Only casket materials that will be useful in narrowing the time frame in which the infant was buried is discussed. All other items are listed in the table in the appendix.

Polyester Batting and Polyurethane Flexible Foam

Polyester batting adhered to the sediments and skeletal remains. Fragments of wood veneer or cloth clung to the batting and, in several instances, it was covered by wood veneer or cloth on both sides (Figure 8). Polyurethane flexible foam lined the base and sides of the casket and was not lined. The dress adhered to the surface and had to be carefully pulled apart. It was a yellow-brown color. Polyester batting and polyurethane flexible fabric are both excellent time frame diagnostic tools. Polyester batting was not widely used use until the 1960s (Davis 1980) and polyurethane flexible foam was not commercially available until the late 1950s (https://polyurethane.americanchemistry.com/History/, accessed August 21, 2017).

Figure 8. Polyester batting, polyurethane flexible foam, cloth/veneer, and coffin wood.
Stop Hinge Assemblies

Stop hinges were used to hold open a casket or coffin lid. Separable stop hinges allowed the user to remove the lid of the casket or coffin if so desired. One stop hinge was present among the casket materials (Figure 9). This stop hinge most closely matches Separable Stop Hinge Type 6 found in Pye (2011). He notes the hinge can be found in the 1920s-1930s Langenau Manufacturing Company Catalogue.

Catch Assemblies

Catches are devices used to secure the lid of the casket or coffin. The catch found with the burial (Figure 10) matches a patent issued to Donald Morand on April 18, 1950, U.S. Utility Patent No. 2504716 (Figure 11). It has a rounded top and flat base. The lever head bends posteriorly and twists at the tip.

Figure 9. Stop hinge

Figure 10. Catch
Figure 11. Catch patent issued to D.A. Morand April 18, 1950.
IDENTIFICATION

Casket material and personal artifacts present with the grave allowed the time frame of the death of the individual to be narrowed significantly. The presence of polyester fabric and polyester batting indicates the individual would have been buried after or within the 1960s when polyester batting came into widespread use. Similarly, flexible polyurethane flexible foam was not commercially available until the late 1950s. Each of these provides a minimum burial date of around 1960. The casket hardware catch and stop hinge manufacture date begins in the 1920s for the stop hinge and 1950 for the catch. Neither affects the earliest date at which the infant could have been buried in the L.A. Davis Cemetery.

The sock labeled "Cuddle by Princeton" provides a tight time frame in which the infant could have been buried. The sock was tracked, based on name, to the Princeton Knitting Mill, Waterford, Connecticut. Princeton Knitting Mills merged with Burlington Industries in 1959 (http://www.nytimes.com/1959/11/24/archives/princeton-mills-in-merger-deal-maker-of-knitted-fabrics-and-rugs-is.html, accessed August 22, 2017), and closed the plant in 1961. I am unable to find any other mention of this company operating after 1961. This indicates the socks could have been manufactured up to 1961. However, personal items and casket materials can be used and placed in a grave years after it is no longer commercially available or was purchased/obtained.

Searches of death certificates, obituaries, and documents provided by the community focused on individuals that died between 1960 and 1965. The search was expanded to 1955 to 1975 in order to accommodate for any errors in the knitting mill's closing date or if Burlington acquired and used the Cuddle by Princeton trademark; it must be noted a trademark patent could not be found.

Search parameters included individuals between 7 months to 13 months of age who died between 1955 and 1975. Obituaries were searched in Collin County only, specifically McKinney. Obituary searches were limited by the newspapers accessible. The majority of the research focused on death certificates and the research included death certificates in Collin County and the surrounding counties, such as Dallas. The age-at-death of the individual made narrowing a possible match easier due to the dearth number of children that die at that age. The majority of infants, for whom I could view death certificates, typically died at birth or by 3-4 months of age, well outside the age-at-death range of the disinterred infant. It was also presumed that the infant was a female based upon the dress.

Death certificates listed individuals buried in the Davis cemetery as being buried in the Davis Cemetery, Col Cemetery, or Plano Col Cemetery; Col likely was shorthand for colored. Of all of the hundreds of death certificates searched, only two females were between 7-13 months in age and were buried in the Davis or Col Cemetery.
Debra Ann Jonson, possible relative of the funeral home director AC Stimpson, was born 5-25-1953 and died 3-10-1954 of paralysis of the throat and measles (Figure 12). The second individual is Vickie Pippens born 9-26-1963 and died 6-20-1964 aged 8 months 25 days (Figure 13). She died from acute septicemia gastroenteritis and dehydration; which can be complications of malnutrition and vitamin D deficiency. Debra Ann Johnson died before polyester batting and polyurethane flexible foam were commercially available and, thus, she is excluded. No children aged 7-13 months that were buried at the Davis Cemetery could be identified between 1965 and 1975. Thus, the closest match is Vickie Pippens. However, a confirmed match cannot be made without identification of the dress or socks by the family or a relative familiar with the burial or DNA test.

Figure 12. Death Certificate for Debra Johnson.
Figure 13. Death Certificate for Vickie Pippens.
CONCLUSIONS

The skeletal remains unintentionally disinterred by AmaTerra Environmental, Inc. is that of a female aged 7-13 months at death. Demographic characteristics of the skeletal remains and the manufacture date and availability of the batting, foam, and socks narrows the time frame at death in the early to mid 1960s. The only potential match, based on records searches of death certificates, obituaries, and local community information, is Vickie Pippens.

Caution must be applied in confirming the remains are Vickie Pippens without identification of the clothing by the family or DNA testing. Local informants indicate individuals are buried in the cemetery at random without use of funeral home services or in an assigned plot. It is highly possible the infant could have been buried by family and a death certificate never filed.
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Snoddy, Anne Marie E., Siân E. Halcrow, Hallie R. Buckley, Vivien G. Standen, Bernardo T. Arriaza
APPENDIX

Figure 14. Lace used as trim on the sleeves of the dress and as applique on the skirt.

Figure 15. Close photograph of the cloth/veneer attached to the polyester batting.
Figure 16. Examples of casket hardware.
Table 3. List of casket hardware, casket materials, and personal items.

<table>
<thead>
<tr>
<th>Bag</th>
<th>Material</th>
<th>Quantity</th>
<th>Size</th>
<th>Catalogue Match</th>
<th>Period</th>
<th>Similar Item Found</th>
</tr>
</thead>
<tbody>
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<td>1</td>
<td>Machine cut nail</td>
<td>1</td>
<td></td>
<td></td>
<td>1900</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Polyester batting</td>
<td></td>
<td>around 1960</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Wood veneer or cloth on batting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Snap hinges</td>
<td>1</td>
<td></td>
<td>U.S. Utility Patent No. 2,504,716 assigned to A. Armin &amp; April 18, 1950</td>
<td>1950</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Catch</td>
<td>1</td>
<td></td>
<td>Post-1900s</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td>Post-1950</td>
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<td>Post-2011</td>
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</tr>
<tr>
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<td>Wood fragments</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>Polyester batting</td>
<td></td>
<td>around 1960</td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>Wood fragments - rusty pine</td>
<td>3</td>
<td></td>
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<td></td>
</tr>
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<td>4</td>
<td>Wood fragment with wire nail</td>
<td></td>
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<td></td>
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<td>4</td>
<td>Machine cut nails</td>
<td>8</td>
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<tr>
<td>5</td>
<td>Barbed wire</td>
<td>1</td>
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<td></td>
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<tr>
<td>5</td>
<td>Polyurethane flexible foam</td>
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<td></td>
<td>late-1950s and after</td>
<td></td>
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</tr>
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<td>Barbed wire</td>
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<td>4.5 cm</td>
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</tr>
<tr>
<td>5</td>
<td>Staples</td>
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<td>2.5 cm</td>
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<td>5</td>
<td>Staples</td>
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<td>2.5 cm</td>
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<td></td>
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</tr>
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<td>Snagging pin</td>
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<td></td>
<td></td>
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<td>Machine cut nail</td>
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<td>6 cm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>3 cm</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5</td>
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<td>2 cm</td>
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<tr>
<td>5</td>
<td>Floral - broken</td>
<td>1</td>
<td>4.5 cm</td>
<td></td>
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<tr>
<td>5</td>
<td>Machine cut nail - j-shape</td>
<td>1</td>
<td>2 cm</td>
<td></td>
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</tr>
<tr>
<td>6</td>
<td>String ties</td>
<td>3</td>
<td>1 cm</td>
<td></td>
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<tr>
<td>6</td>
<td>String ties</td>
<td>1</td>
<td>5 cm</td>
<td></td>
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</tr>
<tr>
<td>6</td>
<td>Staple</td>
<td>3</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6</td>
<td>String ties</td>
<td>7</td>
<td></td>
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</tr>
<tr>
<td>6</td>
<td>Button</td>
<td>1</td>
<td></td>
<td>horn h穴 button</td>
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</tr>
<tr>
<td>6</td>
<td>Pink colander dress</td>
<td>1</td>
<td></td>
<td>hand-made similar to 1930s/1950s style</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Pink lace</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>7</td>
<td>Socks</td>
<td>2</td>
<td></td>
<td>Unknown</td>
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<tr>
<td>7</td>
<td>Socks</td>
<td>2</td>
<td></td>
<td>Princeton-Kappe Mfg, Inc. Inscription: Cuddle by Princeton, 100% stretch nylon, B, made in USA. Fits sizes 3-4</td>
<td>1950-1960</td>
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<tr>
<td>7</td>
<td>Socks</td>
<td>2</td>
<td></td>
<td>Late 1950-early 1960</td>
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