BACK TO BONDAGE

Forced Labor In Post Reconstruction Era Texas

The Discovery, Exhumation, and Bioarchaeological Analysis
of Bullhead Convict Labor Camp Cemetery (41FB355)
James Reese Career and Technical Center Campus
12300 University Boulevard, Sugar Land, Texas

AUGUST 2020

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GOSHAWK ENVIRONMENTAL CONSULTING, INC.

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FORCED LABOR IN POST RECONSTRUCTION ERA TEXAS

THE DISCOVERY, EXHUMATION, AND BIOARCHAEOLOGICAL ANALYSIS OF BULLHEAD CONVICT LABOR CAMP CEMETERY (41FB355) JAMES REESE CAREER AND TECHNICAL CENTER CAMPUS, 12300 UNIVERSITY BOULEVARD, SUGAR LAND, TEXAS

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ABSTRACT

Goshawk Environmental Consulting, Inc. (Goshawk) conducted a cultural resources investigation within the proposed ±23-acre James Reese Career and Technical Center (JRCTC) in Sugar Land, Fort Bend County, Texas, at the request of the Fort Bend Independent School District (FBISD). The field investigation began 14 October 2017 and ended on 1 September 2018 with ongoing research, analysis, and report writing continuing through August 2020.

The project area was once part of the larger Central State Prison Farm owned by the State of Texas and used in part for agricultural purposes. Initial ground clearing and utilities trenching was subjected to archeological monitoring which was conducted under Texas Historical Commission (THC) Antiquities Permit #8197. Project monitoring consisted of a three phase operation: stripping, trenching, and pit excavation. The first phase consisted of bulldozer stripping the top 4-inches down to 24-inches (depending on location) and pushing into removal piles. Fifteen features were delineated. The second phase consisted of monitoring trench excavation for storm and sanitary sewer lines, with over 7,149 lineal feet (2,179 meters) of the total 17,224 feet (5,250 meters), or about 41.5 percent of the total monitored. Two subsurface features were delineated. Pit excavation (third phase) consisted of placing 20 small pits in areas not subjected to construction trenching. Profiles and photographs documented all three phases.

No bone material was present in any of the excavations. Based on these results, it was Goshawk's opinion that no significant cultural resources or human burials were present and recommended construction proceed as planned, except in the unlikely event human remains were discovered. The THC concurred with these findings.

Goshawk archeologists responded to a call on 19 February 2018 about possible human remains having been uncovered at the JRCTC site. The next day, archeologists found three medial longbone fragments, a prehistoric pottery fragment and several fresh-water mussels in the back dirt pile. The bone appeared to be of human origin, but without epiphyses, Goshawk personnel could not be certain. Once remains had been assessed as human, work began to assess the burial(s) through exploratory excavations. Goshawk recognized the burial was historic, but requested Dr. Catrina Whitley visit the site, and she concurred the remains were not prehistoric. Goshawk covered Burial 1, then began mechanical scraping of the surrounding area to locate additional interments. The Bullhead Bayou channel was established as the south boundary. Additional burials were found to the north and east further defining the cemetery boundary. FBISD petitioned the District Court for exhumation of 94 burials. Goshawk began exhumation under a new Scope of Work approved by the THC.

Exhumation work began on 6 June 2018 with Reign Clark as Project Manager, Ron Ralph as Principal Investigator, and Dr. Catrina Whitley as Bioarcheologist. The exhumation required 87 crew days, and once all burials were exhumed, mechanical excavation continued to a depth of 30 to 90 centimeters below the bottom elevation of the graves to ensure there were no remaining interments. A Notice of Completion of Exhumation was issued to THC and Goshawk received concurrence that only analysis and reporting remained. Non-destructive laboratory analysis of remains and archival research continued.

Per TAC Permit #8197 requirements, field paperwork, biological samples (including tooth and bone materials for DNA and isotope analysis), and a selection of secondary context artifacts was prepared for curation at the Texas Archeological Research Laboratory (TARL). With the assistance of the Conservation Research Laboratory at Texas A&M University, Goshawk completed artifact stabilization for iron artifacts associated with the convict labor camp. These materials, all field records, and digital data were curated at the Sam Houston Memorial Museum in Huntsville, Texas.

In November of 2019, Goshawk returned to the JRCTC to audit the reinterment process as it was conducted by a local undertaker. Reinterment was completed on 30 November 2019 and the “Sugar Land 95” are again at rest in their original grave locations.

MANAGEMENT SUMMARY

Goshawk Environmental Consulting, Inc. (Goshawk) conducted cultural resources monitoring of topsoil removal and trenching operations within the proposed James Reese Career and Technical Center (JRCTC) in Sugar Land, Fort Bend County, Texas, at the request of the Fort Bend Independent School District (FBISD). The Area of Potential Effect (APE) was the total ±23-acre construction zone for the JRCTC and adjacent land owned by FBISD. Additionally, 20 small trenches or pits were excavated within the areas that had not been monitored during the first 3 months of the field effort.

The project area was once part of the larger Central State Prison Farm owned by the State of Texas and used in part for agricultural purposes. Following due diligence protocol, the excavation operation of the initial construction phase was subjected to archeological monitoring. Goshawk archeologists Ron Ralph and Keith Faz began monitoring on 14 October 2017 and continued monitoring, as weather allowed, through 19 January 2018. Ron Ralph served as Principal Investigator and as Project Archeologist for the monitoring effort.

Project monitoring consisted of three operations: stripping, trenching, and pit excavation. Topsoil removal consisted of scraping by bulldozer the top 4-inches down to 24 inches (depending on location) and pushing into removal piles. This phase lasted from 14 October 2017 through 18 October 2017 and culminated with a drone flight to assess progress. Several features (N=15) were delineated during monitoring, and sketches were drawn of each. Trench excavation for storm sewer and sanitary sewer lines was continuously monitored from 27 November 2017 through 19 January 2018. This phase consisted of over 5,250 meters of trenches, or about 40% of the total trenching operations. Trench profiles were recorded, and two subsurface features were delineated. Pit excavation was conducted on 18 January and consisted of placing 20 small pits with a small track hoe along areas not subjected to trenching. Profiles and photographs documented the work.

Bone material was not encountered during construction monitoring, and no human remains were present in any of the excavations. Based on these results, it was Goshawk's opinion that significant cultural resources and/or human burials were absent. Goshawk recommended that construction should have proceed as planned, except in the unlikely event human remains were discovered. The Texas Historical Commission agreed with these findings and Goshawk personnel returned home to complete the report of investigations.

Goshawk responded to a call from Bryan Ray of Jacobs Engineering Group on 19 February 2018 about possible human remains having been uncovered at the JRCTC site. Goshawk archeologists responded by visiting the site of the find on the morning of 20 February 2018. The three longbone medial fragments found within a back dirt pile appeared to be of human origin, but without epiphyses, Goshawk personnel could not be certain. The FBISD Police Department, collected the bone material for further analysis by a forensic specialist. Initially, the bone material was taken to the Galveston County Medical Examiner's office. The examiner's office was 99% certain the bone was not of human origin. Oscar Perez, Chief Operations Officer for FBISD, wanted to be 100% certain that the remains were not of human origin prior to proceeding with construction. As such, the bone material was taken

to the Forensic Anthropologist, Dr. Joan Bytheway, of Sam Houston State University on 23 February 2018.

After a field visit, Goshawk staff met with Bill Martin (Archeological Reviewer) and Pat Mercado-Allinger (Division Director) of the Texas Historical Commission (THC) on 22 February 2018 to discuss ramifications of the accidental discovery of possible human remains and potentially associated prehistoric materials. At the time of this meeting, the bone recovered from the JRCTC site was not yet verified as human remains. This meeting resulted in a preliminary plan to proceed with excavations to identify the source of diagnostic artifacts and possible organic preservation at a prehistoric site. On 26 February 2018, Goshawk received word that the remains had been assessed as human by Dr. Bytheway, but no indication of age was offered. Goshawk worked closely with Bill Martin of THC to devise a Scope of Work to assess the burial(s). With FBISD approval, Goshawk began excavations on 12 March 2018.

Goshawk staff quickly recognized the burial was historic in age, as square-cut nails were found, and the body was laid to rest in an east/west orientation. Dr. Catrina Whitley visited the site on 21 March 2018 and studied the burial in situ. From her limited field assessment, Dr. Whitley determined the remains were not prehistoric Native American. On 28 March 2018, Goshawk covered and protected Burial 1 and began scraping the surrounding area in search of additional graves associated with the historic cemetery. The original Scope of Work called for a 10-meter radius of scraping from any in-place interment. This proved to be an inadequate radius when one interment was found nearly 10 meters from another, thus the search radius was increased to 15 meters. The south boundary was suspected to be formed by an old channel of Bullhead Bayou. The west boundary was established by completion of a 15-meter-wide scrape with no additional burials found.

On 9 April 2018, Bill Martin visited Site 41FB355 and determined a 15-meter search radius appropriate for the distribution of graves at the cemetery. He required excavation south of the old channel of Buffalo Bayou and inspection of the south stream terrace for the presence of graves. Beginning on 19 April 2018, Goshawk conducted excavations crossing the old bayou channel and opened blocks to inspect the opposite terrace. No sign of interments was found on the south terrace, and the old bayou channel was established as the south boundary of the cemetery. Additional burials were found to the north and east and, eventually, the north and east boundaries were identified by the absence of burials in a 15-meter radius. This phase of work was completed during the first week of May 2018. FBISD then submitted a petition to the District Court for exhumation of the burials.

Working closely with the THC, Goshawk completed a Scope of Work on 1 June 2018 for the exhumation and analysis of the burials. On 4 June 2018, the District Court heard FBISD's petition and issued an Order to Exhume to FBISD. Exhumation work began on 6 June 2018 with Reign Clark as Project Manager, Ron Ralph as Principal Investigator, and Dr. Catrina Whitley as Bioarcheologist. The exhumation and over-dig phases, requiring a total of 87 crew days from start to finish, were completed on 1 September 2018. Once all burials were exhumed, mechanical excavation was continued to a depth of 30 to 90 centimeters deeper than the bottom elevation of the grave shafts. The over-dig was conducted to the edge of the Administrative Cemetery Boundary (15-meter radius around graves) to help ensure there were no remaining interments within the excavation block.

Once all over-dig excavations were completed and all burials had been exhumed, a total of 95 interments and a single empty coffin were removed from the ground. On 10 September 2018, a Notice of Completion of the exhumation was issued to THC. Goshawk received concurrence from the THC that all fieldwork had been completed under TAC Permit #8197 and only analysis and reporting remained. Non-destructive laboratory analysis of remains and associated artifacts were conducted on the JRCTC site in a mobile laboratory. These studies were completed by the first week of October 2018. CT scans and radiographs were completed on 7 November 2018. Archival research was conducted throughout October, November, and into December 2018.

The reporting effort required the work of nine authors and thousands of hours to complete. In addition to a thorough historical context, the report includes a detailed account of all phases of discovery and investigation including the monitoring effort (conducted prior to the discovery), discovery of remains, site testing, mechanical scraping, exhumation, descriptions of the burials and material culture, laboratory analysis, and special analysis results.

Per TAC Permit #8197, curation of the field paperwork, biological samples (including tooth and bone materials for DNA and isotope analysis), and a selection of secondary context artifacts was completed. Biological samples, along with burial paperwork, were prepared for curation at the Texas Archeological Research Laboratory (TARL). With the assistance of the Conservation Research Laboratory at Texas A&M University, Goshawk completed artifact stabilization and analysis of all metallic artifacts that could be associated with the use of the site as a convict labor camp. These materials, field records, and digital data were curated at Sam Houston Memorial Museum in Huntsville, Texas.

In November of 2019, Goshawk returned to the JRCTC to audit the reinterment process as it was conducted by a local undertaker. In-field tasks included auditing the removal of remains from laboratory storage containers, placement of the remains into the burial vessels, observation of excavation of each grave shaft, placement of each casket, monitoring the condition and accuracy of the surveyed and staked locations of graves and legal cemetery boundary, and other associated tasks. Survey and staking of the cemetery boundaries and the grave shaft center point locations began on 18 November 2019 and was completed in two days. Staging of materials and other logistics tasks began on 21 November 2019 and continued through 23 November 2019. Reinterment began on 24 November 2019 and was completed on 30 November 2019.

After the completion of the exhumation, analysis, reporting, and reinterment of the population of Bullhead Camp Cemetery, much work remains that falls outside of the responsibility of FBISD and the stipulations of TAC Permit #8197. In the fall of 2019, the THC approved a research proposal for the extraction and analysis of ancient DNA (aDNA) at the University of Connecticut. Pursuant to that permit, TARL forwarded samples to the University of Connecticut for genetic analysis. Researchers have secured funding for the first batch of DNA extractions. Ancient DNA extraction and preliminary analysis is currently underway at the genomics laboratory at University of Connecticut. Analysis will continue at Othram, Inc., in The Woodlands, Texas. Othram will then compare results with available databases to identify possible descendant groups. After analysis is complete, genealogical work will be conducted to connect at least a portion of the cemetery population to living descendants. When

that happens, a portion of the individuals who died at Bullhead Camp over 100 years ago will finally regain their names.

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Many members of the Fort Bend Independent School District (FBISD) family, including the Board of Trustees, Dr. Charles Dupre (Superintendent), Oscar Perez (Chief Operations Officer), Carolina Fuzetti (Executive Director of Design and Construction), Veronica Sopher (Chief Communications Officer), Amanda Bubela (Director of External Communications), Robert Scamardo (General Counsel), Chassidy Olainu-Alade (Coordinator of Community and Civic Engagement), David Rider (FBISD Police Chief), and Mike Harvey (FBISD Police Lieutenant), worked tirelessly to offer guidance, support, and outreach during every phase of the project. Special thanks go to Oscar Perez. Upon discovery, the bone material was taken by FBISD Police to the Medical Examiner's office, who issued a 99 percent certainty the bone was not of human origin. Mr. Perez wanted to be 100 percent sure that the remains were not of human origin prior to proceeding with construction. The bone material was taken to the Forensic Anthropologist of Sam Houston State University, who verified the bone as human. Without Mr. Perez's desire to verify the nature of the remains, the Bullhead Camp Cemetery may never have been identified. Many thanks for his resolve.

The authors express their gratitude to the agents of the Texas Historical Commission, who offered their expertise and support during every phase of the project. Thanks go to Pat Mercado-Allinger (State Archeologist, retired) who offered her knowledge and support during every step of this complex project. Thanks go to Brad Jones (State Archeologist, current) for helping facilitate the curation of biological samples from the cemetery and for weighing in on the conservation and curation methodology. Many more thanks to Mr. Jones for helping to simplify the agency processes that will allow ancient DNA to be used to identify our ancestors and better understand our Texas heritage. A very special thanks goes to William Martin (Archeologist and Reviewer). His almost daily support of the project, from the turning of the first shovel of dirt to the last letter typed in this document, was instrumental to the success of the project. His continued correspondence, updates, and advice were truly appreciated.

A widely diverse and skilled group of archeologists, bioarchaeologists, anthropologists, historians, and local informants were brought together as a research team in response to the unprecedented discovery of the Bullhead Camp Cemetery. The original construction monitoring effort was conducted by Ron Ralph (Principal Investigator and Field Director) and Keith Faz (Archeologist). Mr. Ralph and

Mr. Faz took part in every phase of the project, enduring cold and wet conditions during the monitoring effort and hot and humid conditions during exhumation. Many thank for your efforts and support throughout the project.

The testing and discovery phases were led by Reign Clark (Archeological Project Manager and Equipment Operator) and Ron Ralph. Archeologists who took part in these phases included Emily van Zanten, Diane Ralph, Keith Faz, Phil Schoch, Tommy Nuckols, Sandra Rogers, and Steven Evans. Dr. Catrina Banks Whitley visited the site during assessment of Burial 1 to share her unmatched bioarchaeological expertise. No one knew at that point just how many hours we would spend working together researching the most significant cemetery population to Texas history to come to light in decades. A special thanks goes to Ms. Van Zanten as the principal monitor during the cemetery delineation effort, requiring no less than 40 days of careful mechanical excavation. She developed an almost extra-sensory ability to identify burials by their graveshafts in the black clay soil, and her resilience during weather extremes and long days is much respected.

The excavation, exhumation, and laboratory phases were led by Reign Clark, Dr. Catrina Banks Whitley, and Ron Ralph. The exhumation crew leaders were Abigail Fisher and Petra Banks. The exhumation technicians included Dr. Karissa Basse, Dr. Heather Backo, Dr. Jenna Batillo, Keith Faz, Don Becker, Levi Cormier, Steven Evans, Phil Fisher, Kathleen Hughes, Katie Kitch, Amber Nesbitt, Nathan Palmer, Sandra Rogers, Jenilyn Saunders, Phil Schoch, and Emily van Zanten. The crew endured the most difficult working conditions imaginable through the east Texas summer of 2018. The bonds that were formed among this talented, skilled, and tenacious group will always endure.

Special recognition must go to Petra Banks. She distinguished herself as an extremely capable director in very adverse conditions. She always kept high the morale of the exhumation crew, and her tenacity and attention to detail is second to none. A special thanks also goes to Dr. Karissa Basse. She is singularly skilled in the identification and analysis of funerary objects, coffin construction, historical artifacts, and the history of cemetery customs.

The laboratory crew, headed by Dr. Whitley, consisted of Abigail Fisher (Laboratory Manager) and Gwen Bakke. Dr. Whitley brought her unparalleled skill and knowledge base to interpret wear on the bones of the deceased resulting from overwork and the pathologies that reflected trauma and disease to truly understand what these men endured before their deaths. Her participation in this project yielded an incredible amount of information on a truly important and totally unprecedented site. Likewise, special thanks go to Abigail Fisher, whose knowledge, skills, work ethic, and dedication to the project were obvious on a daily basis. She worked longer days and longer work sessions than anyone else without a complaint, keeping an upbeat attitude through often difficult working conditions. Her professionalism and her drive were an inspiration to the crew, as well as her managers, throughout the project.

In addition to the regular crew of laboratory specialists, many thanks go to the select group that took part in cleaning bone prior to bioarchaeological study. This group included Beth de la Garza, Diane Ralph, Sandra Rogers, Mallory Miller, and Valerie Learman. This group worked for short durations on an as-needed basis. Their contributions are much appreciated.

Many thanks go to Dr. Alicia Walter (Owner of Stafford Oaks Veterinary Hospital) who volunteered her radiography machine at no cost for the project. Many thanks also go to Chiekezi Ekechi (Director of Imaging and Diagnostic Services at Houston Methodist Sugar Land Hospital) for volunteering to make CT Scans at no cost. Their generosity has added greatly to the study of trauma among the population of the Bullhead Camp Cemetery.

Much recognition goes to the researchers, historians, and authors who were contributors to the present investigations. First recognition goes to Sandra Rogers (Author and Curator of the Texas Prison Museum, retired) who volunteered hundreds of hours poring over prison records to obtain information on the documented deaths of inmates on Bullhead Camp. It is through her tireless efforts that we now know the names and so much more about the individuals who died at Bullhead Camp. Many thanks go to Dr. Helen Graham for bringing her inestimable skills as an historian and genealogical researcher. It is through her efforts that we have vignettes of three of the men who died on Bullhead Camp and a better understanding of the history of the African Diaspora. Through her tireless and continuing efforts, we will know so much more about the Bullhead Camp Cemetery population in the years to come. Many thanks go to Dr. Theresa Jach for her thorough sections on the history of convict labor in the United States and, specifically, Texas. She is the preeminent expert on these subjects. The participation of Don Hudson (Author, Historian, and Former Prison Guard at the Central Unit Prison) was most appreciated. Mr. Hudson offered his vast knowledge and unique perspective on the history of convict labor, the Imperial Prison Farm, and the later use of Sartartia Plantation as the first modern prison in the Texas Prison System. Special recognition goes to Mallory Miller for her herculean effort to edit and format material from the many contributors to this document. Her efforts are very much appreciated. Thanks also go to Valerie Tompkins who served to create the map and aerial figures for this report. Ms. Tompkins was also responsible for the preparation of artifacts and records for curation. Many thanks to her for her diligence.

During the course of the project, the authors received a great deal of assistance and input from local historians and Commissioners of the Fort Bend County Historical Commission, which facilitated the completion of the investigations and production of the final report. Many thanks go to Commissioner Bruce Grethen for providing a suite of historic maps and aerials for use during the archival phases of the project, to Commissioner Robert Crosser who provided information and historical context regarding cemeteries in Fort Bend County, and to Commissioner Claire Rogers who was very open with archival information about convict labor and the local prisons. Special thanks go to Commissioner Charles Kelly who provided much support during the field effort and afterward. He hosted numerous informant interviews and meetings and provided the authors access to the hand-painted 1885/1899 Sartartia Plantation map that has so illuminated the history of the place and helped to put the Ellis camps in context for this project and for future research.

Special thanks go to Douglas Blackmon (Pulitzer Prize-Winning Author of Slavery by Another Name). As a preeminent historian on the subject of convict labor, he offered another perspective of convict labor in other states that provided greater understanding and context. His council added greatly to this study.

Before the first burial was found, one man was there in Sugar Land, raising awareness of the history of Sartartia Plantation, the Imperial Prison Farm, and local convict labor. As the Archeological Project Manager and Lead Author of this Report of Investigations, I am honored to express my gratitude to the late Reginald Moore (Historian, Activist, Colleague, and Friend). I thank him for his years of study and activism. I thank him for inviting me to research his archives housed at Rice University. I thank him for tirelessly raising public awareness of the difficult history of southeast Texas as a center for sugar production on the backs of first enslaved, then convicted, African-Americans during the post-reconstruction era. Without his voice, the men who died on Bullhead Camp might still be lost to history. Rest now, Mr. Moore, and let others lend their voices to help educate our children about the difficult past so that we may never repeat it.

Reign Clark

Reign Clark
Archeological Project Manager
Bullhead Prison Camp Cemetery Project

FOREWORD

A day of reckoning has dawned upon the United States. The 21st century is an epic century for uncovering more of America's shameful history of her mistreatment of African-American citizens in post-Civil War America and her disregard for the sanctity of African-American burial grounds. Since archaeologists discovered the "Negroes Burial Ground" in New York in 1991, a plethora of similar discoveries have been made.

In March 2020, at least 44 graves containing the remains of African Americans were discovered under a Florida parking lot. In December 2019, researchers found a possible mass grave from the 1921 Tulsa Race Massacre in Tulsa, Oklahoma, containing the remains of African Americans. In November 2019, archaeologists discovered Ridgewood Cemetery, a segregation-era, African-American cemetery established in 1942; nearly 150 coffins on the property of King High School in Florida were found. In August 2019, researchers used a radar and detected more than 120 coffins beneath Robles Park Village apartment complex in Tampa, Florida; the lost Zion Cemetery, an African-American cemetery organized in 1901, was found. In February 2018, the Sugar Land 95 were discovered.

In February 2018, human remains were found at a construction site in Sugar Land, Texas where Fort Bend Independent School District (FBISD) was preparing to erect the James Reese Career and Technical Center (JRCTC). In all, the remains of 95 individuals (94 men and boys and possibly one woman) were discovered. The 95 individuals, now known as the Sugar Land 95, were part of the state-sanctioned convict leasing system, which existed in Texas between 1871 and 1911.

In all of these findings, one may wonder about the identities of those interred in these burial grounds and their untold stories. The principle researchers who have worked diligently to uncover the untold stories of the Sugar Land 95, now present their findings in this report. Archaeologists, bio-archaeologists, geneticists, genealogists, and historians have employed an interdisciplinary approach to collecting and analyzing data about the Sugar Land 95 and the history of convict leasing in the state of Texas. They share the background and scope, methodology, testing, exhumation, detailed archival work, historical context, descriptions of burials and artifacts, and laboratory analysis of the remains of the Sugar Land 95. For anyone interested in archaeology, bio-archaeology, genetics, genealogy, history, or the humanities in general, this study reveals a unique picture of the worst parts of Jim Crow and exposes how poorly man can treat his fellow man.

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1.0 PROJECT BACKGROUND

1.1 INTRODUCTION

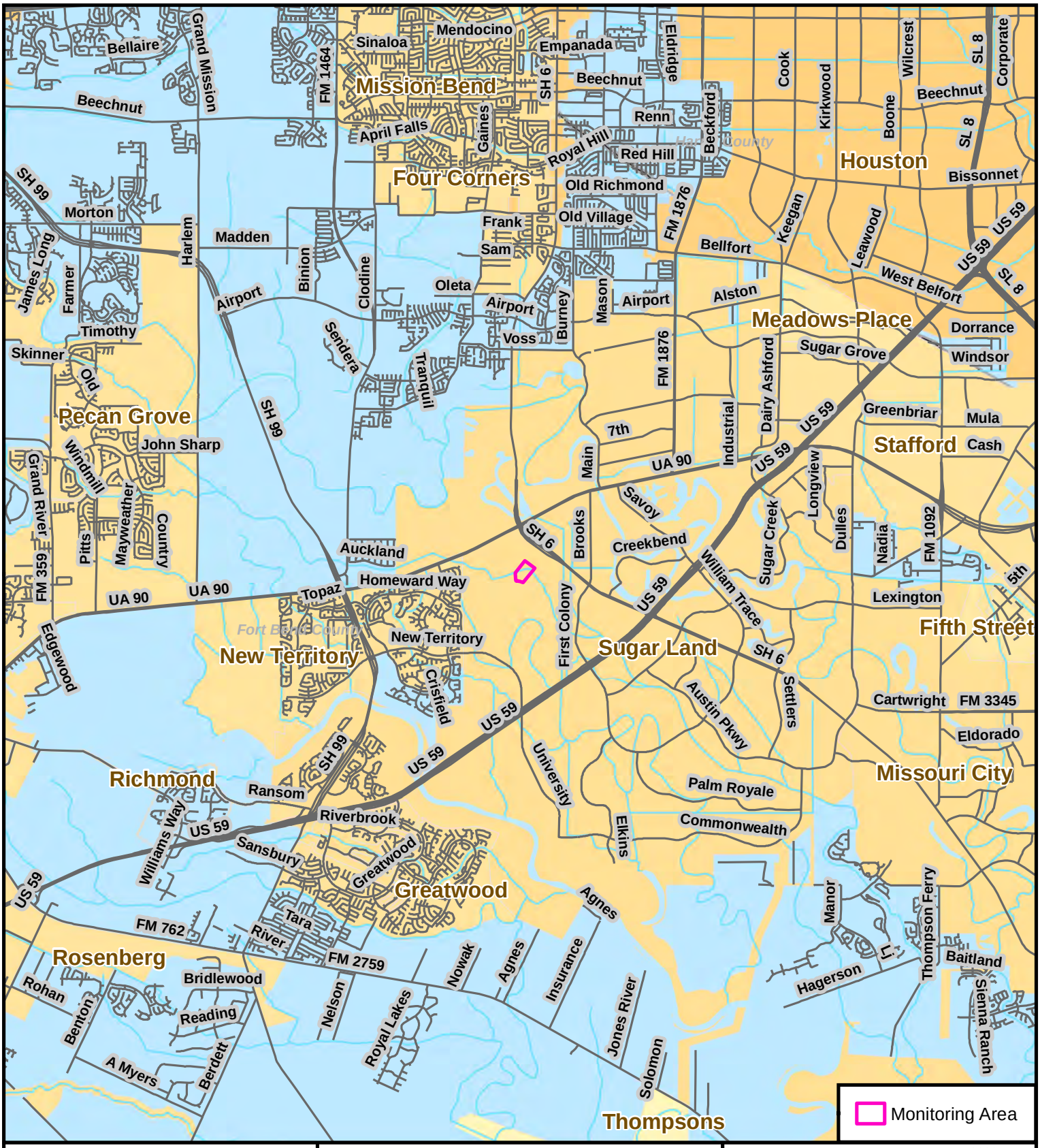
Goshawk Environmental Consulting, Inc. (Goshawk) conducted cultural resources monitoring of topsoil removal and trenching operations within the proposed ±23-acre James Reese Career and Technical Center (JRCTC) in Sugar Land, Fort Bend County, Texas, at the request of the Fort Bend Independent School District (FBISD) (Figure 1.1). The Area of Potential Effect (APE) consisted of the JRCTC construction zone and adjacent land owned by FBISD.

The project area was once part of the larger Central State Farm Prison owned by the State of Texas and used in part for agricultural purposes. Following due diligence protocol, the excavation operation of the initial construction phase was subjected to archeological monitoring. Goshawk archeologists Ron Ralph and Keith Faz began monitoring on 14 October 2017 and continued monitoring, as weather allowed, through 19 January 2018. Ron Ralph served as Principal Investigator and as Project Archeologist for the monitoring effort.

Project monitoring consisted of three operations: stripping, trenching and pit excavation. Topsoil removal consisted of scraping by bulldozer the top 10 to 60 centimeters (depending on location) and pushing into removal piles. This phase lasted from 14 October 2017 through 18 October 2017 and culminated with a drone flight to assess progress. Several features (N=15) were delineated during monitoring and sketches drawn of each. Trench excavation for storm sewer and sanitary sewer lines was continuously monitored from 27 November 2017 through 19 January 2018. This phase consisted of over 5,250 meters of trenches or about 40 percent of the total trenching operation. Trench profiles were recorded, and two subsurface features were delineated. Pit excavation was conducted on 18 January and consisted of placing 20 small pits with a small excavator along areas not subjected to trenching. Profiles and photographs documented the work.

Bone material was not encountered during construction monitoring and no human remains were present in any of the excavations. Based on these results, it was Goshawk's opinion that significant cultural resources and/or human burials were absent. Goshawk recommended that construction should have proceed as planned, except in the unlikely event human remains were discovered. The Texas Historical Commission (THC) agreed with these findings and Goshawk personnel returned home to complete the report of investigations.

Goshawk responded to a call from Bryan Ray of Jacobs Engineering Group on 19 February 2018 about possible human remains having been uncovered at the JRCTC site. After a field visit, Goshawk staff met with Bill Martin (Archeological Reviewer) and Pat Mercado-Allinger (Division Director) of the THC on 22 February 2018 to discuss ramifications of the accidental discovery of possible human remains and potentially associated prehistoric materials. At the time of this meeting, the bone recovered from the JRCTC site was not yet verified as human remains. This meeting resulted in a preliminary plan to proceed with excavations to identify the source of diagnostic artifacts and possible organic preservation at a prehistoric site. On 26 February 2018, Goshawk received an email from Inspector Martinez, FBISD Police, with an attachment detailing the results of the assessment made by Forensic Anthropologist, Dr. Joan Bytheway, of Sam Houston State University.



Map Source: ESRI, Maps and Data, USA Base Map, 10.6, 2017

0 4,000 8,000 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 1.1
Vicinity Map
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 14 May 2020

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The bone was identified as human, but no indication of age was offered. Goshawk worked closely with Bill Martin of THC to devise a Scope of Work to assess the burial(s). Goshawk began excavations on 12 March 2018. The excavation team consisted of Ron Ralph, Reign Clark, Keith Faz, Emily van Zanten, Steven Evans, Tommy Nuckols, Phil Schoch, Sandra Rogers, and Diane Ralph.

Goshawk staff quickly recognized the burial was historic in age as square-cut nails were found, and the body was laid to rest in an east–west orientation. Dr. Catrina Whitley visited the site on 21 March 2018 and studied the burial in situ. From her limited field assessment, Dr. Whitley determined the remains were not prehistoric Native American. On 28 March 2018, Goshawk covered and protected Burial 1 and began scraping the surrounding area in search of additional graves associated with the historic cemetery. Reign Clark operated the excavator for the duration of the project. At least one monitor was on the ground working with the excavator at all times. Sometimes as many as four people assisted with monitoring, identifying, and covering grave shafts with black plastic and sandbags. The plastic covering kept moisture in the ground to keep the deposits from drying out and losing the color definition between the native soil and the grave shaft infill. The original Scope of Work called for a 10-meter radius of scraping from any in-place interment. This was found to be an inadequate radius because one interment was found to be spaced nearly 10 meters from another, thus the search radius was increased to 15 meters. The south boundary was suspected to be formed by an old channel of Bullhead Bayou. The west boundary was established by completion of a 15-meter-wide scrape with no additional burials found.

On 9 April 2018, Bill Martin visited Site 41FB355 and determined a 15-meter search radius appropriate for the distribution of graves at the cemetery. He required excavation south of the old channel of Bullhead Bayou and inspection of the south stream terrace for the presence of graves. Beginning on 19 April 2018, Goshawk conducted excavations crossing the old bayou channel and opened blocks to inspect the opposite terrace. No sign of interments was found on the south terrace, and the old bayou channel was established as the south boundary of the cemetery. Additional burials were found to the north and east and eventually, the north and east boundaries were identified by the absence of burials in a 15-meter radius. This phase of work was completed during the first week of May 2018. FBISD then submitted a petition to the District Court for exhumation of the burials.

Working closely with the THC, Goshawk completed a Scope of Work on 1 June 2018 for the exhumation and analysis of the burials. On 4 June 2018, the District Court heard FBISD's petition and issued an Order to Exhume to FBISD. Exhumation work began on 6 June 2018 with Reign Clark as Project Manager, Ron Ralph as Principal Investigator, and Dr. Catrina Whitley as Bioarcheologist. The exhumation crew leads included Abigail Fisher, Petra Banks, and Dr. Heather Backo. The exhumation technicians included Karissa Basse, Jenna Batillo, Don Becker, Levi Cormier, Beth de la Garza, Steven Evans, Keith Faz, Phil Fisher, Kathleen Hughs, Katie Kitch, Mallory Miller, Amber Nesbitt, Nathan Palmer, Diane Ralph, Sandra Rogers, Jenifer Saunders, and Phil Schoch. The Laboratory Crew, headed by Dr. Whitley, consisted of Abigail Fisher (Laboratory Manager) and Gwen Bakke. Most, if not all members of the exhumation crew cycled through to serve as laboratory technicians throughout the project. The exhumation and over-dig phases, requiring a total of 87 crew

days from start to finish, were completed on 1 September 2018. Once all burials were exhumed, mechanical excavation was continued to a depth of 30 to 90 centimeters deeper than the bottom elevation of the grave shafts. The over-dig was conducted to the edge of the administrative cemetery boundary (15-meter radius around graves) to help ensure there were no remaining interments within the excavation block.

Once all over-dig excavations were completed and all burials had been exhumed, a total of 95 interments and one empty coffin were removed from the ground. On 10 September 2018, a Notice of Completion of the exhumation was issued to THC. Goshawk received concurrence from the THC that all fieldwork had been completed under TAC Permit #8197 and only analysis and reporting remained. Non-destructive laboratory analysis of remains and associated artifacts were conducted on the JRCTC site in a mobile laboratory. These studies were completed by the first week of October 2018. CT scans and radiographs were completed on 7 November 2018. Archival Research was conducted from October to December 2018.

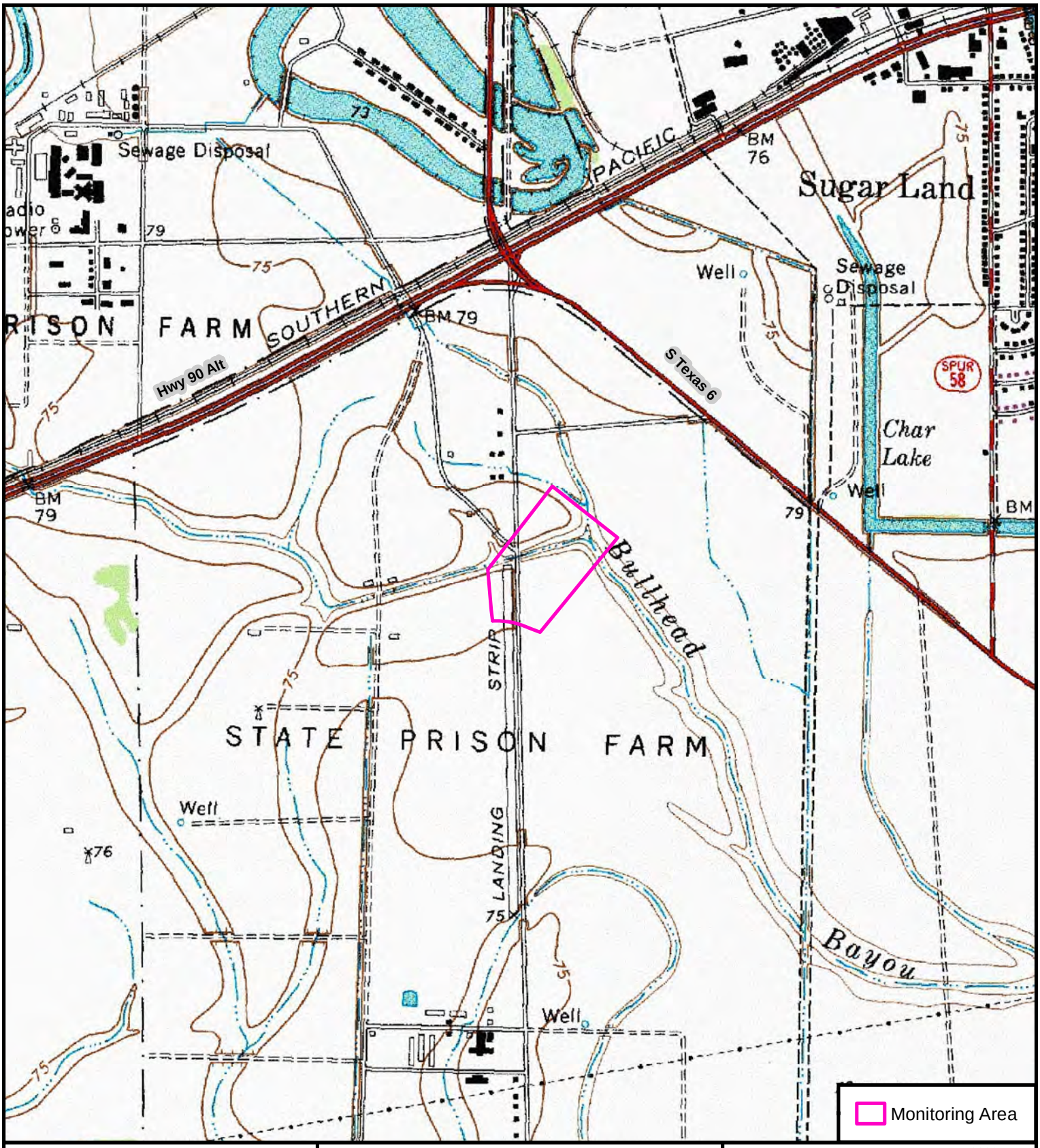
The reporting effort required the work of nine authors and many hundreds of hours to complete. In addition to a thorough historical context, the report includes a detailed account of all phases of discovery and investigation, including the monitoring effort (conducted prior to the discovery), discovery of remains, site testing, mechanical scraping, exhumation, descriptions of the burials and material culture, laboratory analysis, and special analysis results.

1.2 Study Area

The JRCTC is located 1,100 meters south of the intersection of United States Highway 90 Alternate (US 90A) and Texas State Highway 6 North (SH 6N). The project area is located on the 7.5-minute United States Geological Survey (USGS) Sugar Land, Texas, topographic quadrangle (Figure 1.2). The Union Pacific Railroad parallels the north side of east–west running US 90A and transports goods and services across the southern United States. The Sunset Limited still serves passengers (Amtrak) connecting New Orleans to Los Angeles across the second transcontinental railroad.

The Sugar Land Regional Airport and the decommissioned Central State Prison Farm are north of the railroad. The now abandoned Walker Station, or the Sartartia Station, as it was known at the turn of the century, was on the rail line due south of the prison building. The JRCTC fronts on the intersection of University Boulevard and Chatham Avenue. Local landmarks include the H.E.B grocery store to the northeast, the Hilton Garden Inn to the east, and Telfair Community Park to the southeast. Downtown Houston is approximately 23 miles to the east.

The project area lies on alluvial terraces of the Brazos River (located 5 kilometers south) at an elevation varying from 60 to 75.5 feet above mean sea level (AMSL). The project area is bounded by a large flood relief channel that replaced Bullhead Bayou along the northern edge of the JRCTC. The older channel is depicted on the Sugar Land, Texas, USGS topographic quadrangle (USGS 1970) as it runs through the project area (Figure 1.2). Oyster Creek is a major rechannelized stream lying to the north, where it has formed numerous lakes and oxbows as it meanders past the Central State Prison Farm and the Imperial Sugar Company mill and headquarters into Sugar Land proper. The Texas Department of Criminal Justice once owned this land and additional thousands of acres



Map Source: USGS, Sugar Land, Texas Quadrangle.

0 600 1,200 Feet

FIGURE 1.2
USGS Topographic Map
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 14 May 2020

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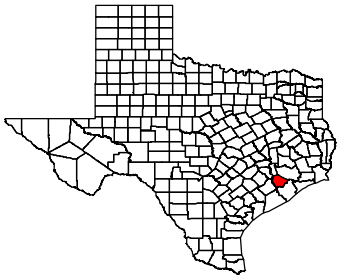

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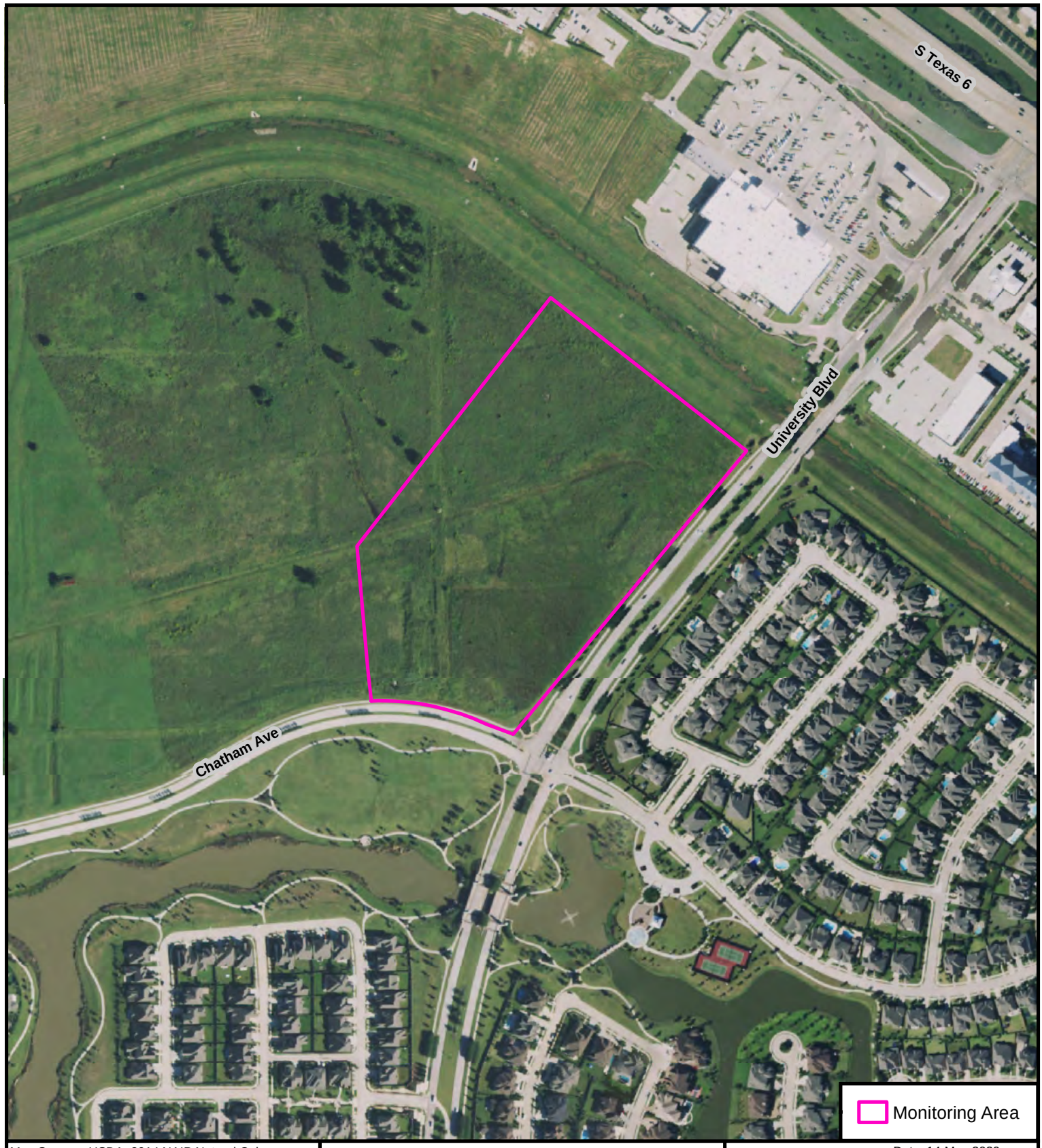

Map Source: USDA, 2014 NAIP Natural Color Imagery for Texas.

0 210 420 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 1.3
Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 14 May 2020

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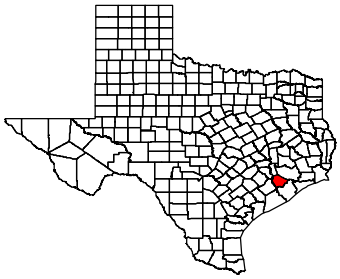


(in part, the Sartartia Plantation of 5,300 acres), where it grew vegetables for other prisons throughout Texas and sugarcane as a cash crop. Various features on the landscape are shown on the most recent aerial photography as a north–south landing strip, old channels of Bullhead Creek, and agricultural roads. A group of trees off site to the northwest surround one of the old labor camps run by private concerns (Figure 1.3). A previous owner had stripped all standing structures and structural remnants using excess material to fill in low areas along Bullhead Bayou. In 2017, when the project began, the land had reverted to hay meadows. Some of the ancient infrastructure is also visible on earlier aerial photographs of the project area. This will be discussed in greater detail in the archival section to follow.

2.0 ENVIRONMENTAL CONTEXT

2.1 INTRODUCTION

The proposed JRCTC is located within the Western Gulf Coastal Prairie physiographic province (Hunt 1974) and the Texan biotic province as defined by Blair (1950). The coastal prairie is a flat or low relief series of sands and muds sloping gently southeast to the Gulf of Mexico. Vegetation in the region consists of grasslands with small, scattered motts of oaks and other woody species.

The terrain prior to the beginning of construction within the JRCTC was nearly level to very gently sloping southward. It was comprised primarily of agricultural fields, once cultivated by the Texas Department of Criminal Justice, that have laid fallow for two decades (Figure 2.1). However, the fields were under cultivation for hay for one year in 2013. These fallow fields are still present to the west and northwest of the JRCTC. The JRCTC is bounded on its northeast side by a diversion channel of Bullhead Bayou constructed in 2005 and a recently-constructed HEB grocery store beyond. The JRCTC is bounded on its southeast side by University Boulevard and by Chatham Avenue on its south side.

Figure 2.1: Terrain within the Project Area, Facing West

2.2 GEOLOGIC AND GEOMORPHOLOGICAL DATA

According the Bureau of Economic Geology, the coastal area consists of Quaternary alluvial deposits underlain by the Beaumont Formation (Barnes 1982; Aronow 2005). The Middle to Late Pleistocene formation was deposited during glacial and interglacial events, followed by extensive down-cutting and erosion during periods of lower sea level associated with the Late Wisconsin glaciation. Approximately 4,500 years ago, after sea levels rose to their present level, the resulting river valleys

filled with alluvial sediments creating broad, level floodplains crossed by meandering rivers and streams, forming delta-like patterns (Fisher et al. 1972).

2.3 Soil Types

The Web Soil Survey of the Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) was consulted to determine the major soil types in the project area (NRCS 2015). Two soils are present within the project area including Clemville silt loam, 0 to 1% slopes, rarely flooded and Sloping alluvial land, rarely flooded. Two other soils are mapped very close to the project area that may be found within the boundaries of the JRCTC. These soils include Brazoria clay, 0 to 1% slopes, rarely flooded and Norwood silt loam.

Brazoria clay is a deep, well-drained, moderately permeable soil located on floodplains. These soils developed from clayey alluvial sediments derived from igneous, metamorphic, and sedimentary rock. The top 25 centimeters of clay loam overlies various clay strata to the base at 203 centimeters or deeper.

Clemville silt loam is a deep, well-drained, variably permeable soil located on floodplains. These soils developed from loamy alluvial sediments of Holocene age. The upper 30 centimeters of silt loam overlies silty clay to the base at 152 centimeters or deeper.

Norwood silt loam is a very deep, well-drained, highly permeable soil located on floodplains in the vicinity of major waterways near the project area such as Oyster Creek and Brazos River oxbows. Norwood soils developed from loam over clayey alluvial sediments of Holocene age. The entire soil column in this unit consists of silt loam to the base at 152 centimeters or deeper.

Sloping alluvial land is a very deep, well-drained, moderately permeable soil found in the beds paralleling bayous and swales such as Bullhead Bayou and Oyster Creek.

2.4 Flora

Fort Bend County lies within the Texan biotic province (Blair 1950). The eastern boundary abuts the pine and hardwood forests on the Gulf Coastal Prairie of the Austroriparian province, while the western boundary grades into the Tamaulipan province and the South Texas Brush country biotic province. Tharp (1939) lists the dominant floral species as: sugarberry, water oak, willow oak, shumard red oak, Southern live oak, American elm, yaupon, red mulberry, wax myrtle, flameleaf sumac, red buckeye, Eastern red cedar, short-leaf pine, and loblolly pine. Shrubs include American beautyberry, buttonbush, lantana, and dwarf palmetto. Other species include prickly-pear cactus, Spanish dagger, and various vines such as pipevine, cross-vine, trumpet creeper, Carolina jessamine, coral honeysuckle, and muscadine grape. Numerous grasses are present, including big bluestem, bushy bluestem, inland sea-oats, sugarcane plumegrass, gulf cordgrass, and eastern gammagrass. Spring wildflowers (11 species) include coralbean, spider lily, turk’s cap, Indian paintbrush, and two primroses (Tharp 1939). Invasive, non-native species including Chinese tallow, crepe myrtle, and Chinaberry within the project area.

2.5 FAUNA

Blair (1950), Davis (1978), and Gadus and Howard (1990) identify the following mammals as common within the Texan province: white-tailed deer, muskrat, raccoon, coyote, opossum, common mole, tri-colored bat, Eastern red bat, fox squirrel, Eastern gray squirrel, Southern flying squirrel, Baird's pocket gopher, fulvous harvest mouse, white-footed mouse, marsh rice rat, cotton rat, eastern woodrat, eastern cottontail, and swamp rabbit. As is the case across most of Texas, feral hogs have also found a home within the province. Common land turtles include eastern box turtle and ornate box turtle, while snapping turtle, mud turtle, river cooter, and diamondback terrapin comprise common water turtles. Common lizards include Carolina anole, Eastern fence lizard, ground skink, broad-headed skink, six-lined racerunner, and Eastern glass lizard. Snakes and amphibians are also present (TPWD 2020a) and an exhaustive list of bird species is given by Arvin (2007) for this region of Texas. Numerous State-listed endangered species are present in Fort Bend County including the Houston toad, several falcons, a burrowing owl, the American eagle, and three mammals (TPWD 2020b). Occasionally, migratory species and other visitors intrude from adjacent provinces (TPWD 2020c). As is the case across most of Texas, feral hogs have found a home within the project area. This invasive species causes great damage to agricultural fields in Texas and continues to churn fallow cropland within the project area.

2.6 CLIMATE

Fort Bend County is a humid, subtropical climate characterized by warm to hot summers and mild winters due to the effects of warm waters in the Gulf of Mexico (McEwen and Crout 1974:38-39). Maximum summer temperatures average 34 degrees Celsius, while minimum winter temperatures average 6 degrees Celsius. Annual precipitation averages 102 centimeters.

2.7 HYDROLOGY

Oyster Creek, a major tributary of the Brazos River, runs west-to-east, north of the project area. Dredging of Oyster Creek and the surrounding lakes began around 1917 and continued through 1932 to help staunch dramatic flood events in the vicinity of the Imperial Sugar Company, which is located approximately 1.6 kilometers east of the project area (Fort Bend 1972). Oyster Creek was most recently dredged by the Fort Bend County Drainage District in August 2014. Based on a review of historic and more recent topographic maps, Oyster Creek has been modified by dredging.

Bullhead Bayou was a major natural relief channel that emptied flood waters from the Brazos River basin into the river. The bayou once flowed in a more direct east–west orientation through the JRCTC (USACE 1915, Google 2005). At current, a diversion channel of Bullhead Bayou, constructed in 2005, flows around the north and east side of the JRCTC. Elevation within the project area ranges from 79 feet above mean sea level (AMSL) in the west, to 74 feet AMSL in the east near the Sugar Land Regional Airport runway.

2.8 LATE NINETEENTH AND TWENTIETH-CENTURY LAND USE

Historical aerial photography and topographic maps were analyzed in an effort to learn about prior land use and improvements to the project area. All of the aerial photography and topographic maps, except for the 1930 Tobin aerial, the Sartartia Plantation map, and county maps, are USGS

materials. The historic map files used in this review were provided for Goshawk's use by Commissioner Bruce Grethen of the Fort Bend County Historical Commission.

2.8.1 Circa 1885 to 1899 Sartartia Plantation Map (hand-painted, color)

This hand-painted map of the Sartartia Plantation was made available by the Fort Bend History Association (FBHA) and the Fort Bend County Historical Commission (FBHA 1899) (Figure 2.2). The map is of uncertain age, but it is speculated that it was made at some time between 1885 and 1899. The map depicts the private sugarcane plantation of L.A. Ellis and his son C.G. Ellis called Sartartia. During the Ellises' tenure, convict labor provided the manpower for the cultivation of crops.

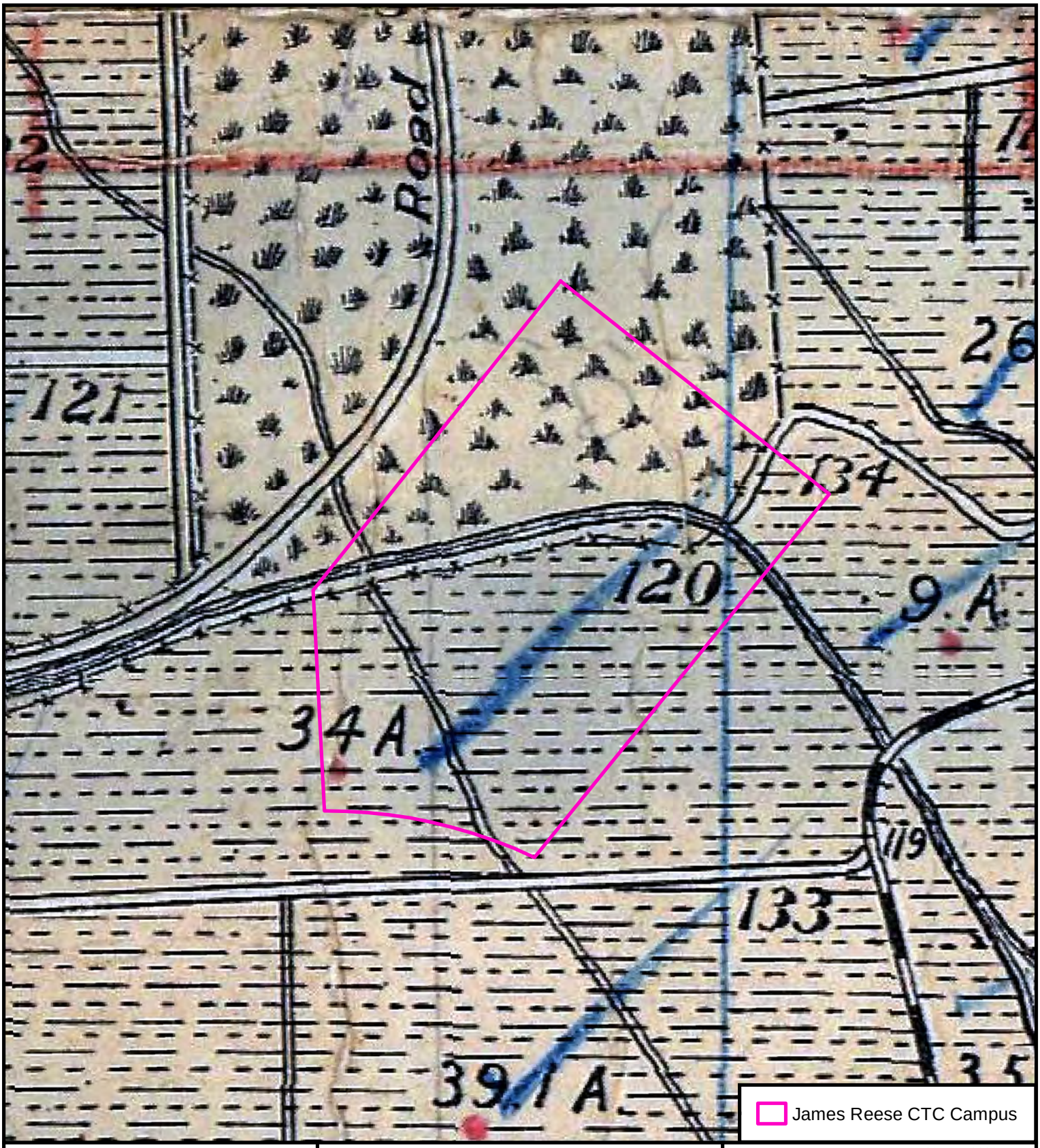
The map indicates that the JRCTC occupies what were once open fields bisected by the natural stream course of Bullhead Bayou on an approximate east–west axis. A fence line is depicted on the south bank of the bayou. A road is indicated along the northwest boundary of the JRCTC. The map key provided indicates that the small tufts in the northern portion of the JRCTC represents pastureland. The dashed lines crossing the vast majority of the fields represent cultivation, in this case, sugarcane. Numerous unpaved farm roads are also represented on the map, as well as a public road southeast of the JRCTC.

2.8.2 1898 Fort Bend County Deed Map (black and white)

The Sartartia Plantation was pieced together from tracts of land primarily within the original Alexander Hodge League and approximately 1,000 acres within the Mills M. Battle League Texas General Land Office 1898) (Figure 2.3). Hodge and Battle were granted deed to their parcels of land in April of 1828. The relatively narrow parcels were bounded on the south end by the Brazos River. The parcels were also crossed by Oyster Bayou (now known as Oyster Creek) across their northern thirds. In the mid-19th Century, the Galveston, Houston, and San Antonio Railroad was constructed across the parcel in an east–west orientation. The JRCTC is situated on the Alexander Hodge League, south of the railroad.

2.8.3 1930 USGS Topographic Map

The 1930 USGS Topographic map depicts Imperial Prison Farm Camp Number 1 north of the JRCTC (USGS 1930) (Figure 2.4). A north–south roadway (Flanagan road) connects the prison farm to the railroad to the north and to the Brazos River and Imperial Prison Farm Camp Number2 on the river's north bank. The JRCTC is bisected by the natural stream course of Bullhead Bayou. At the intersection of the bayou and the road, three structures are clustered together. Two of these structures lay within the boundaries of the JRCTC. A number of other ancillary farm roads intersect Flanagan Road in the vicinity of the camp, one south of the JRCTC and one intersecting the north corner of the JRCTC.



Map Source: 1899 Sartartia Plantation, Texas Quadrangles

0 150 300 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.2
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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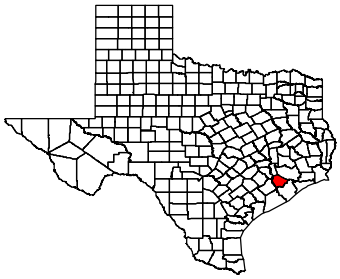

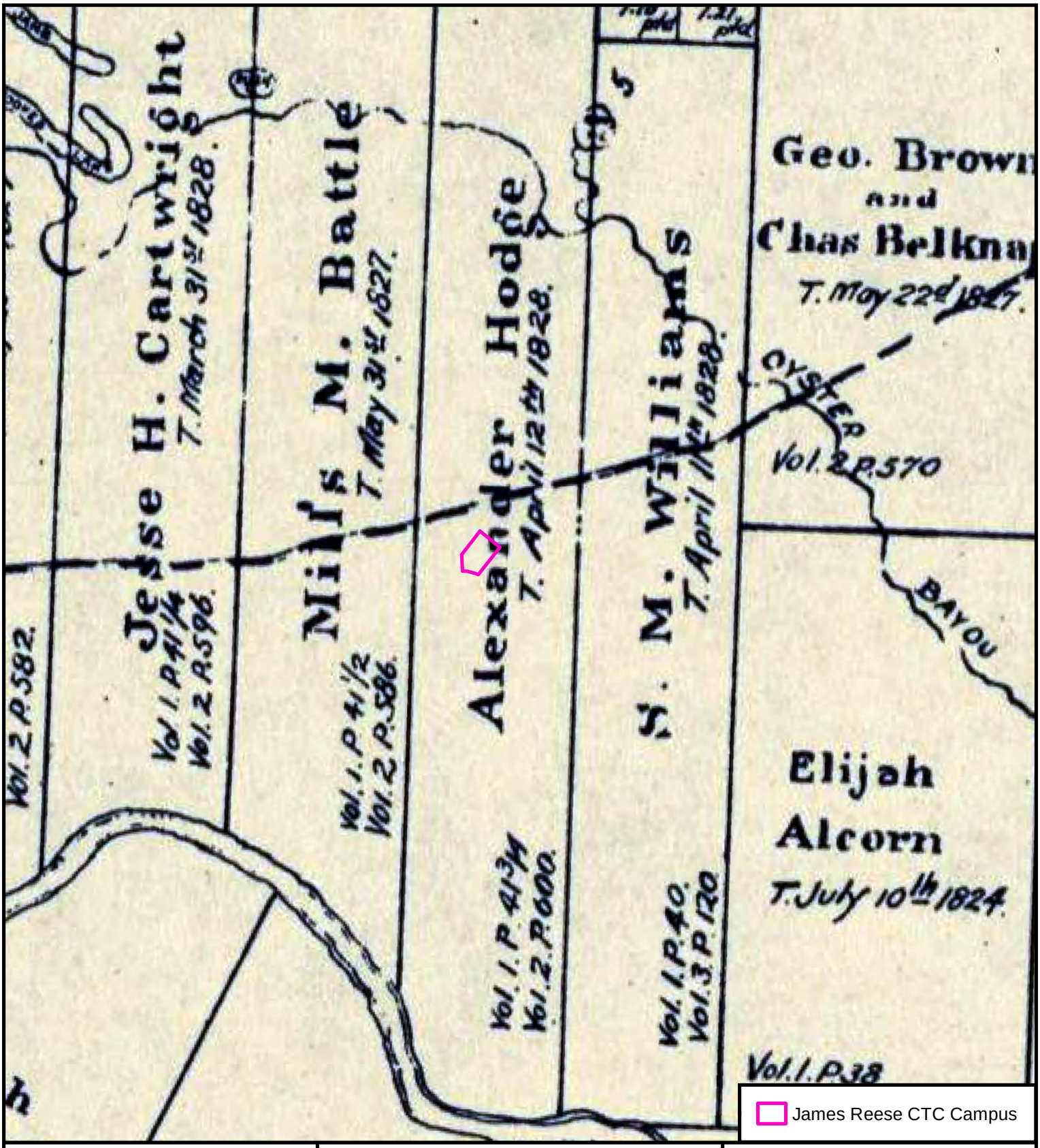

Map Source: Texas General Land Office, Map of Fort Bend County, 1898

0 2,000 4,000 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.3
Historic County Map
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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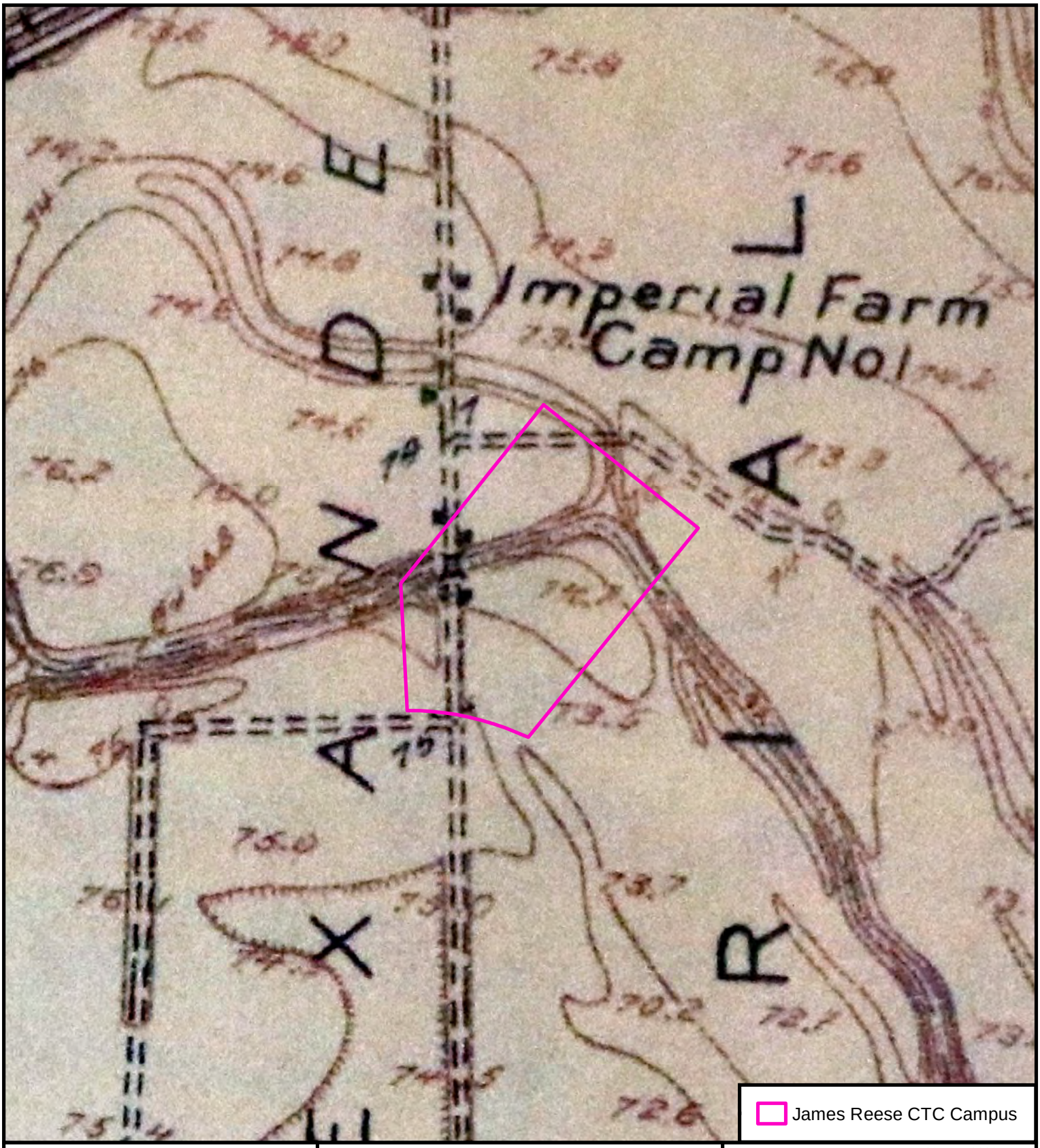

Map Source: 1930, USGS, Sugar Land, Texas Quadrangle

0 275 550 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.4
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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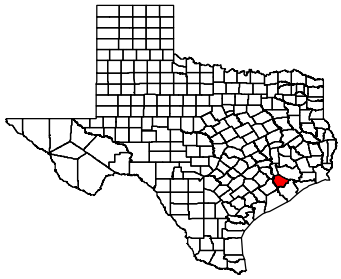

2.8.4 1930 Tobin Aerial Orthoimagery (black and white)

The 1930 Tobin aerial orthoimagery was the earliest available photography reviewed. It showed the project area prior to construction associated with the Central State Farm Prison to the north (Tobin/P2 Energy 1930) (Figure 2.5). Bullhead Bayou appeared to contain water. At least 40 structures associated with the Imperial Prison Farm Camp Number 1 to the north and west of the JRCTC campus are apparent. There are at least five small structures and a portion of one larger structure encroaching into the northwest boundary of the JRCTC on the north side of Bullhead Bayou on either side of Flanagan Road. At least two small structures are observable on the south side of the bayou on either side of Flanagan Road. At least four east–west two-track roads cross Flanagan, dividing the area into rectangular farm fields.

2.8.5 1941 Aerial Orthoimagery (black and white)

Aerial orthoimagery, dated 9 March 1941, shows additional structures in the northern portion of the JRCTC area, north of where the Bullhead Camp Cemetery would be found (USGS 1941) (Figure 2.6). One ancillary structure would be found overlapping the cemetery. The number of identifiable structures visible on this aerial orthoimagery is over 50 structures. The fields surrounding prison infrastructure are largely well-kept and under cultivation. The roads among the buildings and through the field appear well-defined. The banks of Bullhead Bayou appear to be rather overgrown during this time.

Specifically, increased construction is shown within the Imperial Prison Farm Camp Number 1 north of the JRCTC in the form of additional guard housing. The Central State Farm Prison Central Unit opened in 1932 and the Central State Farm Unit Number 2 for black inmates opened in 1939. It makes sense that the Imperial Prison Farm Camp Number 1 infrastructure was reverted to use for agriculture support and guard housing. The Flanagan House is visible, with its pyramidal roof, at the north edge of the photograph excerpt.

2.8.6 1953 Aerial Orthoimagery (black and white)

Aerial orthoimagery, dated 9 October 1953, shows a remarkable reduction of structures in the vicinity of the JRCTC (USGS 1953) (Figure 2.7). All structures in the vicinity of the Flanagan Road crossing of Bullhead Bayou have been removed. Structures encroaching into the northwest boundary of the JRCTC are gone, but a few of their foundations are still present. Four structures constructed in the northern portion of the JRCTC area, north of the Bullhead Camp Cemetery, are still standing. The number of identifiable structures visible on this aerial orthoimagery has decreased to approximately 12 structures. Some of the fields surrounding prison infrastructure are identifiably under cultivation, but at least 40% of the fields lay fallow.

2.8.7 1955 USGS Topographic Map

The 1955 USGS Topographic map depicts Flanagan House, Flanagan Road, and a few ancillary structures associated with Imperial Prison Farm Camp Number 1 north of the JRCTC (USGS 1955) (Figure 2.8). Four structures constructed in the northern portion of the JRCTC area are visible. Another major north–south road has appeared west of and paralleling Flanagan Road. A farm road is depicted connecting the two. SH 6 is depicted crossing the northeast corner of the map excerpt. The total number of structures depicted on this map excerpt is ten, two of which are identified as

Map Source: Edgar Tobin Aerial Surveys of East Texas Collection, 1930

0 250 500 Feet

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FIGURE 2.5
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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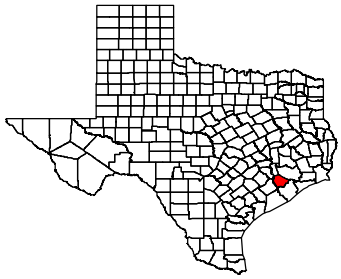

Map Source: 1941 USGS, Sugar Land, Texas Quadrangle.

0 250 500 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.6
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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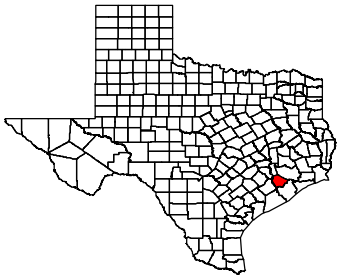

Map Source: 1953 USGS, Sugar Land, Texas Quadrangle.

0 250 500 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.7
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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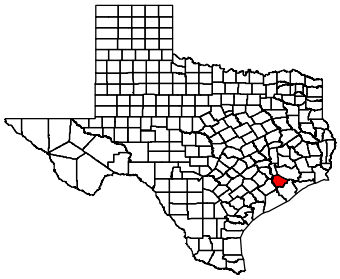

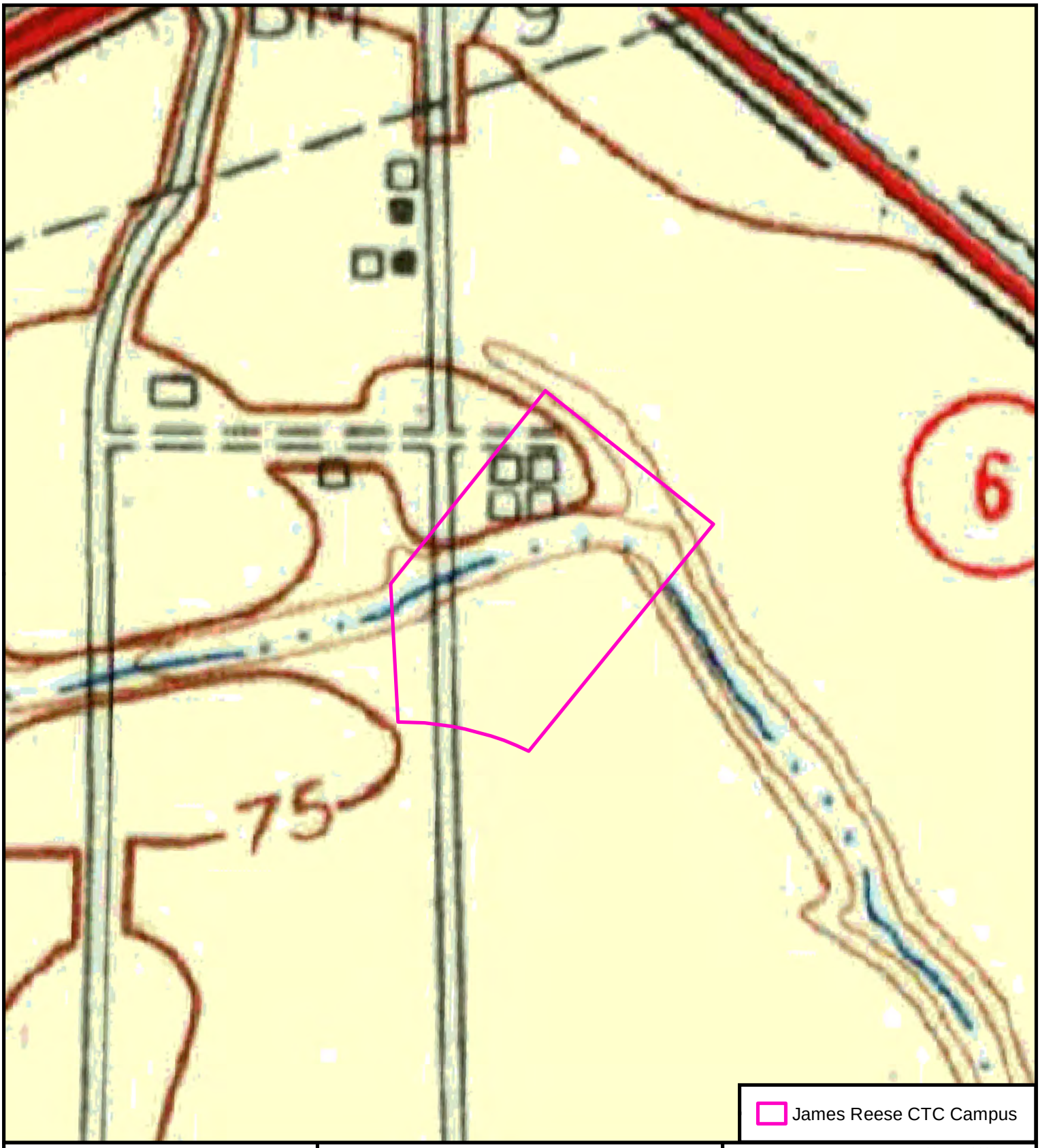

Map Source: 1955, USGS, Sugar Land, Texas Quadrangle

0 250 500 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.8
Historic USGS Topographic Map
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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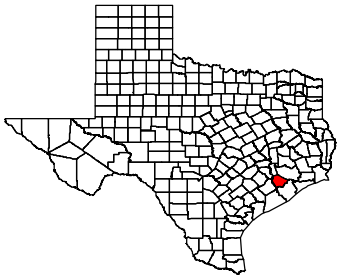


occupied residences. Bullhead Bayou appears unchanged from previous maps and aerial orthoimagery.

2.8.8 1957 Fort Bend County, Texas Highway Map

The 1957 Fort Bend County Road map lacks detail necessary for interpretation (Texas Highway department 1958) (Figure 2.9). All that can be determined from the map is that the JRCTC was located within the boundaries of the “State Prison Farm, Central”. No roads or houses were evident within or near the JRCTC.

2.8.9 1968 Aerial Orthoimagery (black and white)

Aerial orthoimagery, dated 4 December 1968, shows an increased number of residential structures south of Flanagan House (USGS 1968) (Figure 2.10). The new structures appear to be rather complex dormitories or duplexes with hedgerows and large trees planted in maintained yards. These additions coincide with the addition of two blocks of guard housing added at the Central Unit Prison to the north (Clark and Ralph 2015b). Only one small structure or foundation is visible in the northern portion of the JRCTC.

Flanagan Road appears to be well-maintained. Bullhead Bayou is full of water. Hundreds of acres of row crops are visible in the fields to the east of Flanagan road, but many of the fields to the west of the road appear fallow. The addition of a narrow airstrip paralleling the west side of Flanagan Road is shown for the first time. A new road from SH 6 to Flanagan House has been constructed.

2.8.10 1970 USGS Topographic Map

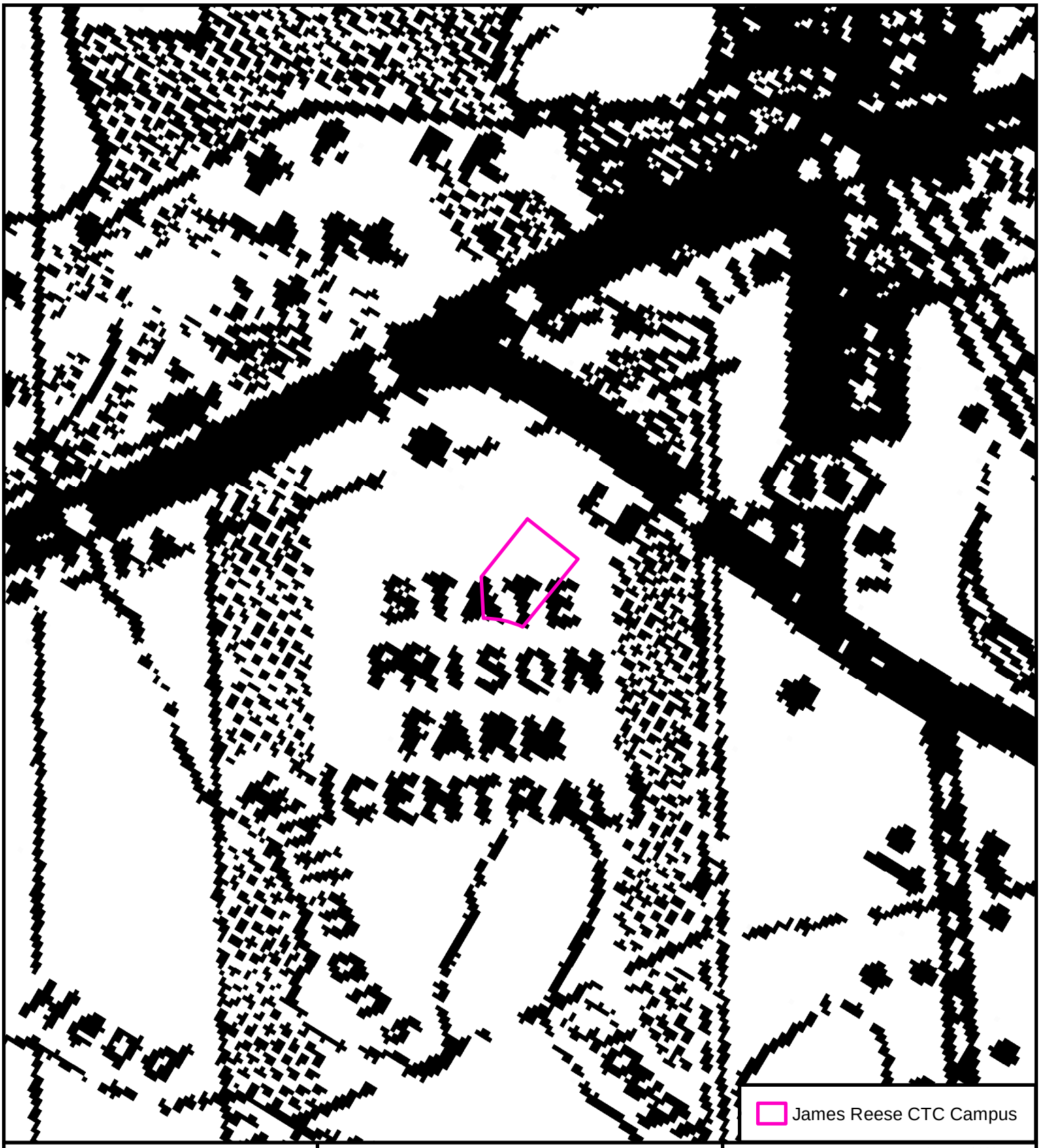
The 1970 USGS Topographic map depicts Flanagan House and five other occupied residential structures on the west side of Flanagan Road (USGS 1970) (Figure 2.11). The airstrip paralleling the west side of Flanagan Road is present. Five ancillary structures are located north and northwest of the JRCTC. Bullhead Bayou has not changed appreciably from previous topographic maps or aerial orthoimagery. The new road from SH 6 to Flanagan House has been added to the topographic map.

2.8.11 1976 Aerial Orthoimagery (black and white)

Aerial orthoimagery, dated 21 February 1976, indicated very little change since 1968 (USGS 1976) (Figure 2.12). There is one identifiable addition in the form of a cattle stockade located northwest of the north end of the JRCTC. There is little vegetation along the banks of Bullhead Bayou, and water is standing in the channel in its southern reaches.

2.8.12 1995 USGS Topographic Map

The 1995 USGS Topographic map depicts a total of eight occupied structures (USGS 1995) (Figure 2.13). None of the ancillary structures mapped to the west and northwest of the JRCTC remain. No other changes are apparent from the 1970 topographic map other than the abandonment of a two-track road on the west edge of the map excerpt. Sometime in 1995, the property was sold by the Texas department of Criminal Justice to a private concern.



Map Source: 1957 Road Map

0 800 1,600 Feet

GOSHAWK
ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.9
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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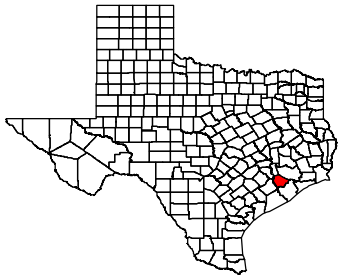

Map Source: 1968 USGS, Sugar Land, Texas Quadrangle.

0 250 500 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.10
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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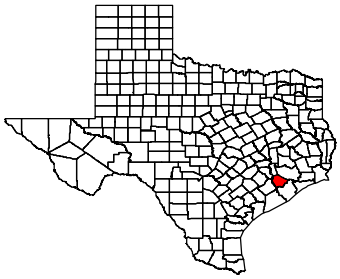

Map Source: 1970, USGS, Sugar Land, Texas Quadrangle

0 250 500 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.11
Historic USGS Topographic Map
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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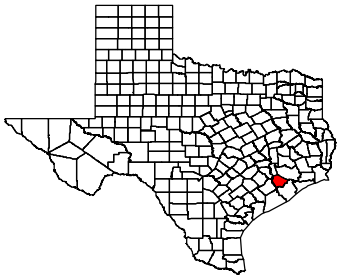

Map Source: 1976 USGS, Sugar Land, Texas Quadrangle.

0 250 500 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.12
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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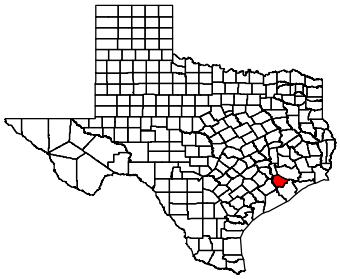

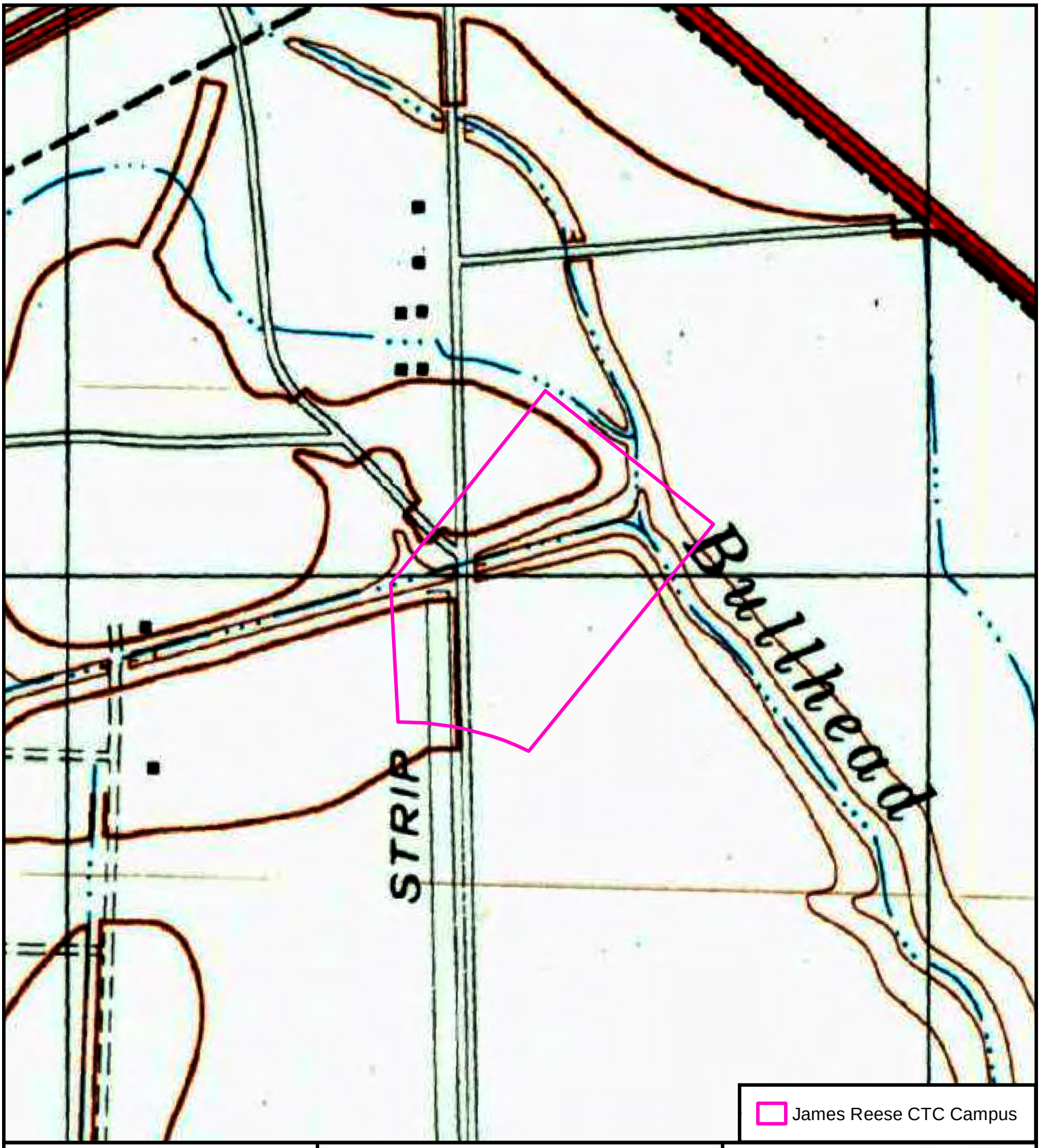

Map Source: USDA, 1996 NAIP Natural Color Imagery for Texas.

0 250 500 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.13
Historic USGS Topographic Map
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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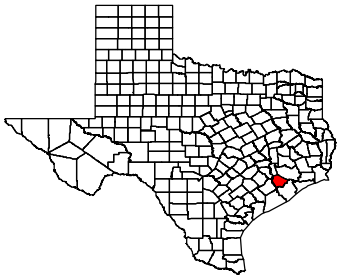

2.8.13 1996 Aerial Orthoimagery (natural color imagery)

The 1996 natural color aerial orthoimagery indicated very little change since 1976 (USGS 1996) (Figure 2.14). The cattle stockade located northwest of the north end of the JRCTC still appears to be in use. The same fields appear to be in cultivation. Bullhead Bayou is holding water in its southern reaches. There is an addition of one ancillary structure north of Bullhead Bayou within the JRCTC. Two ancillary structures have been removed in the vicinity of the JRCTC.

2.8.14 2002 Aerial Orthoimagery (natural color imagery)

Aerial orthoimagery, dated January 2002, shows one structure remaining within the JRCTC on the north bank of Bullhead Bayou with a rusted steel roof (USGS 2002) (Figure 2.15). A small, square foundation is visible north of the structure. The airfield and residential structures, including Flanagan House, remain.

2.8.15 January 2006 Aerial Orthoimagery (natural color imagery)

Aerial orthoimagery, dated January 2006, showed heavy disturbances within and near the JRCTC (USGS 2006) (Figure 2.16). A flood relief channel was excavated, causing a massive linear disturbance 84 meters across, along the northeast edge of the JRCTC. A large earth-moving effort was observed northeast of the flood control channel. The Flanagan House and the other residential structures located north of the JRCTC, have been entirely erased from existence. While the flood control channel was under construction, the levees along the south bank of Bullhead Bayou have been cut and pushed into the bayou from the south. At this time, lakes are being excavated south of the JRCTC as an amenity of the residential neighborhoods under construction.

2.8.16 March 2006 Aerial Orthoimagery (natural color imagery)

Aerial orthoimagery, dated 31 March 2006, showed additional heavy disturbances on both sides of Bullhead Bayou within and near the JRCTC (Google Earth 2006). The bayou appears to have been completely filled in by this time. The flood relief channel contains standing water. University Boulevard is under construction, but the bridge across the flood relief channel has not been built. A few structural remnants, possibly foundations, are visible in the north corner of the JRCTC. A construction trailer, likely associated with the construction of the residential neighborhood to the south, is shown on the southeast corner of the JRCTC. A few fields south of the JRCTC left undisturbed appear to be under cultivation for hay.

2.8.17 2010 Aerial Orthoimagery (natural color imagery)

Aerial orthoimagery, dated January 2010, shows additional heavy disturbances within the southern portion of the JRCTC (USGS 2010) (Figure 2.17). These disturbances are in association with the construction of University Boulevard and Chatham Avenue. University Boulevard and two bridges crossing linear waterways have been completed. A segment of Chatham Avenue east of University Boulevard has been completed, but the segment to the west has not yet begun construction. A small, square foundation in the north corner of the JRCTC can still be seen. The cattle stockade northwest

Map Source: USDA, 1996 NAIP Natural Color Imagery for Texas.

0 250 500 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.14
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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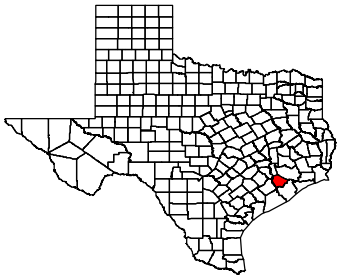

Map Source: USDA, 2002 NAIP Natural Color Imagery for Texas.

0 150 300 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.15
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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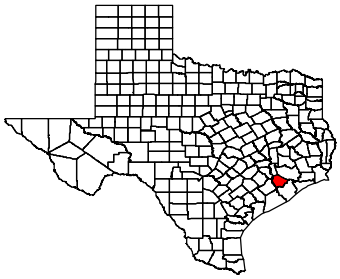

Map Source: USDA, 2006 NAIP Natural Color Imagery for Texas.

0 150 300 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.16
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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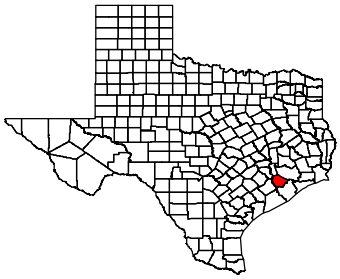

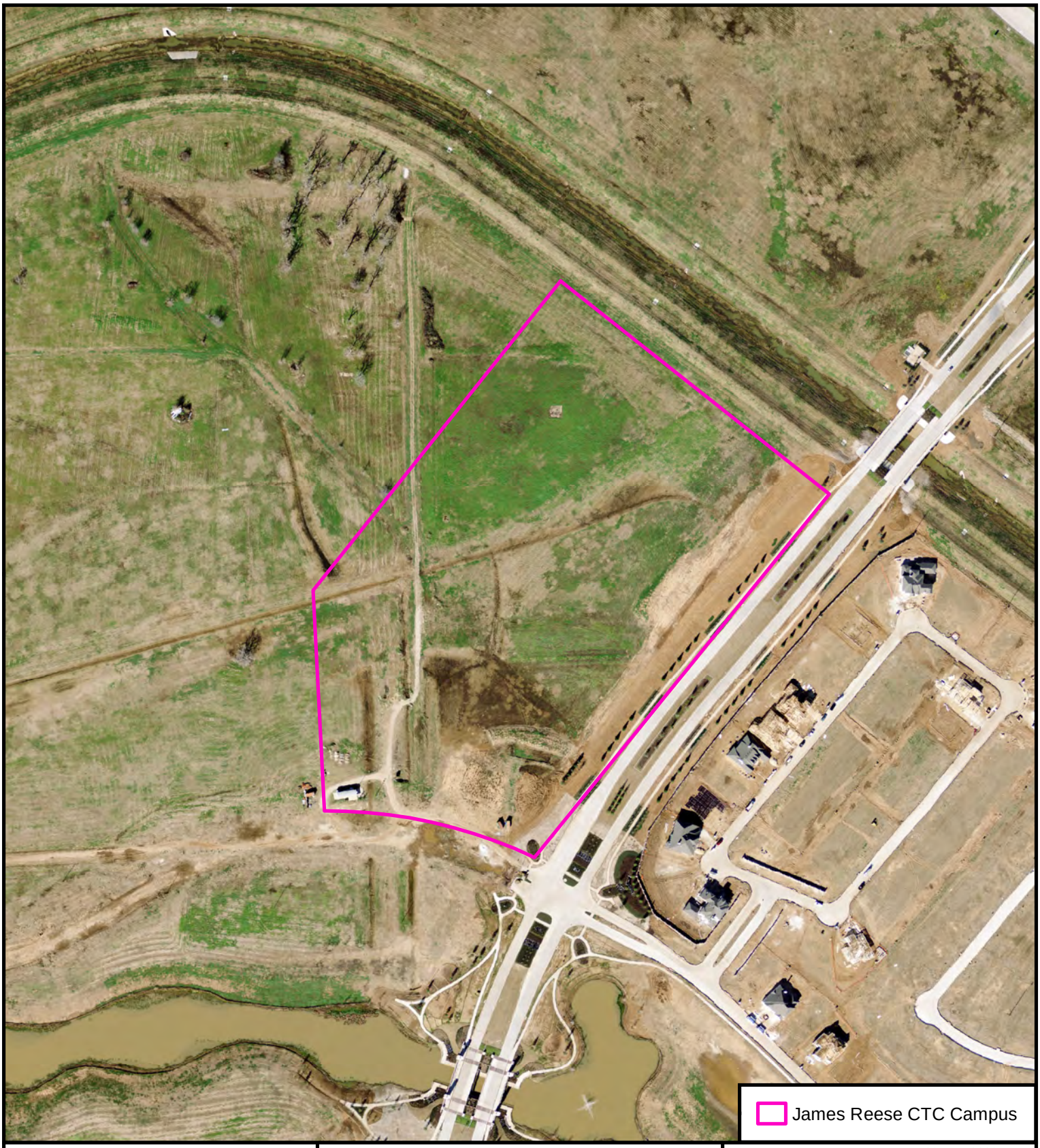

Map Source: USDA, 2010 NAIP Natural Color Imagery for Texas.

0 150 300 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.17
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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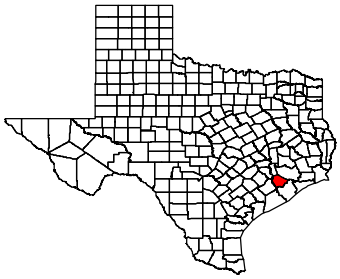


of the JRCTC appears to have been disturbed, but a remnant still exists. Scattered structural remnants associated with the prison and Imperial Prison Farm Camp Number 1 are still observable scattered amongst a mott of trees north of the JRCTC. None of the lands in the vicinity of the JRCTC appear to be under cultivation.

2.8.18 2012 Aerial Orthoimagery (natural color imagery)

Aerial orthoimagery, dated January 2012, shows substantial revegetation within JRCTC (USGS 2012) (Figure 2.18). Chatham Avenue has been completed in the vicinity of the JRCTC. The residential neighborhood southeast of the JRCTC and a shopping center northeast of the flood control channel have also been completed. There is standing water in two places in the fields north and northwest of the JRCTC.

2.8.19 2013 Aerial Orthoimagery (natural color imagery)

Aerial orthoimagery, dated December 2013, shows no discernable changes other than increasing vegetative cover (USGS 2013) (Figure 2.19).

2.8.20 2014 Aerial Orthoimagery (natural color imagery)

Aerial orthoimagery, dated October 2014, shows no discernable changes other than increasing vegetative cover (USGS 2014) (Figure 2.20). Flanagan Road appears to be completely overgrown.

2.8.21 2016 Aerial Orthoimagery (natural color imagery)

Aerial orthoimagery, dated 3 March 2016, shows no discernable changes other than increasing vegetative cover along Flanagan Road, south of the old backfilled Bullhead Bayou channel (USGS 2016) (Figure 2.21).

2.8.22 2017 Aerial Orthoimagery (natural color imagery)

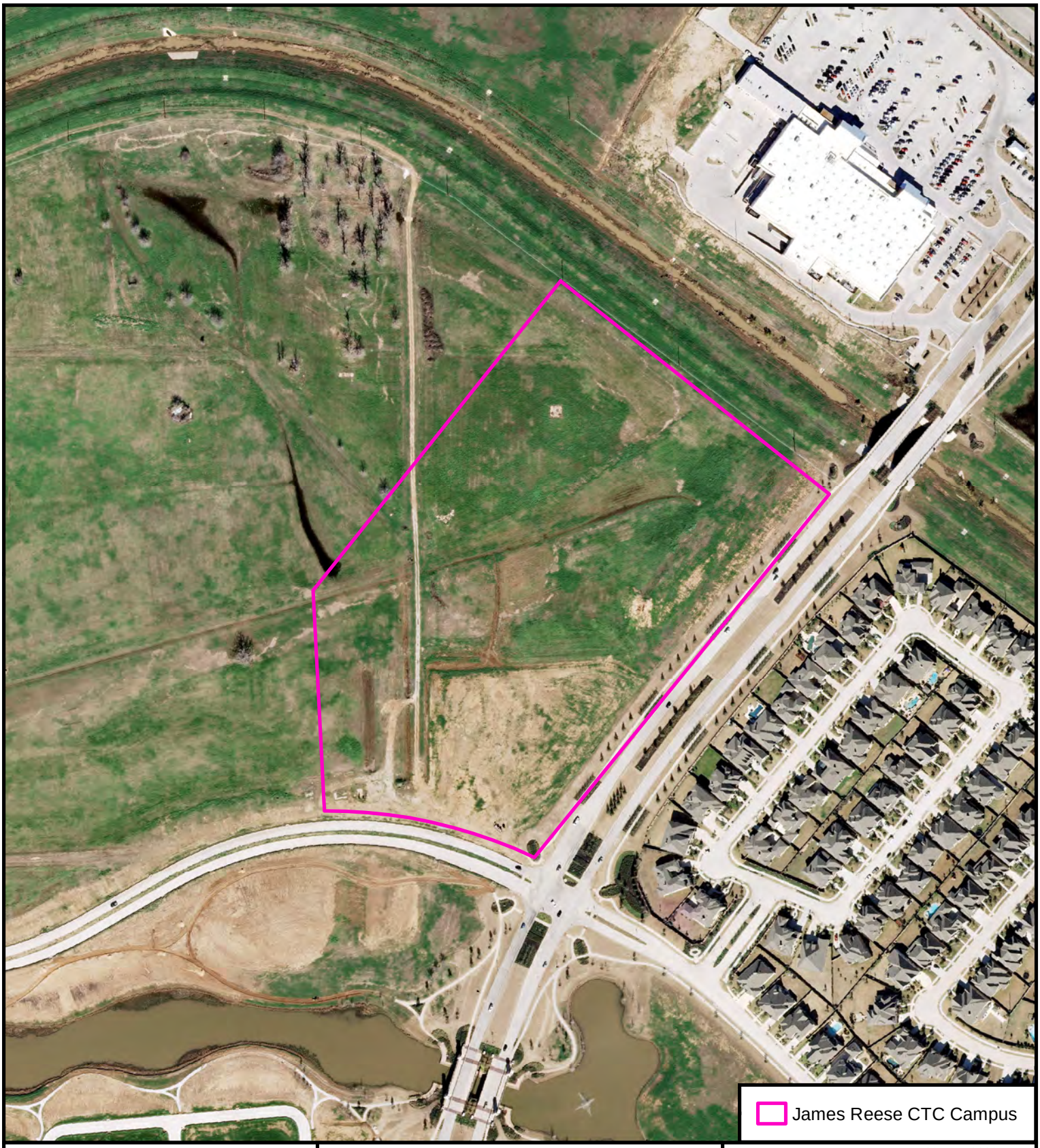
Aerial orthoimagery, dated 28 October 2017, shows site scraping for construction of the JRCTC (USGS 2017) (Figure 2.22). The preliminary layout for the south entrance and the bus drop-off route have begun. The portable construction office has been placed along the southeast property line near University Boulevard. The remainder of the FBISD tract west of the JRCTC has been mowed.

2.8.23 2019 Aerial Orthoimagery (, natural color imagery)

Aerial orthoimagery, dated 23 February 2019, shows the JRCTC building has been completely roofed with the walls dried in (USGS 2019a) (Figure 2.23). Much of the flatwork to the north and south of the building is complete. The exhumation and overdig of the Bullhead Camp Cemetery have been completed. The driveways and parking areas to the northwest of the cemetery have not yet been completed. None of the interior pedestrian flatwork has been completed near the cemetery or the building.

2.8.24 2019 Aerial Orthoimagery (natural color imagery)

Aerial orthoimagery, dated 1 December 2019, shows the JRCTC building has been completely dried in (USGS 2019b) (Figure 2.24). The JRCTC is complete and has been open for classes since the Fall 2019 semester. Vehicular cut-throughs have been placed at two points along University



Map Source: USDA, 2012 NAIP Natural Color Imagery for Texas.

0 150 300 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.18
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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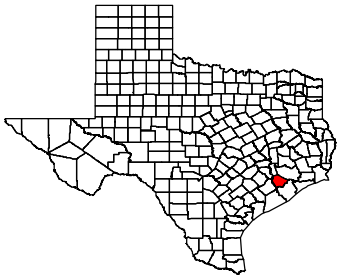

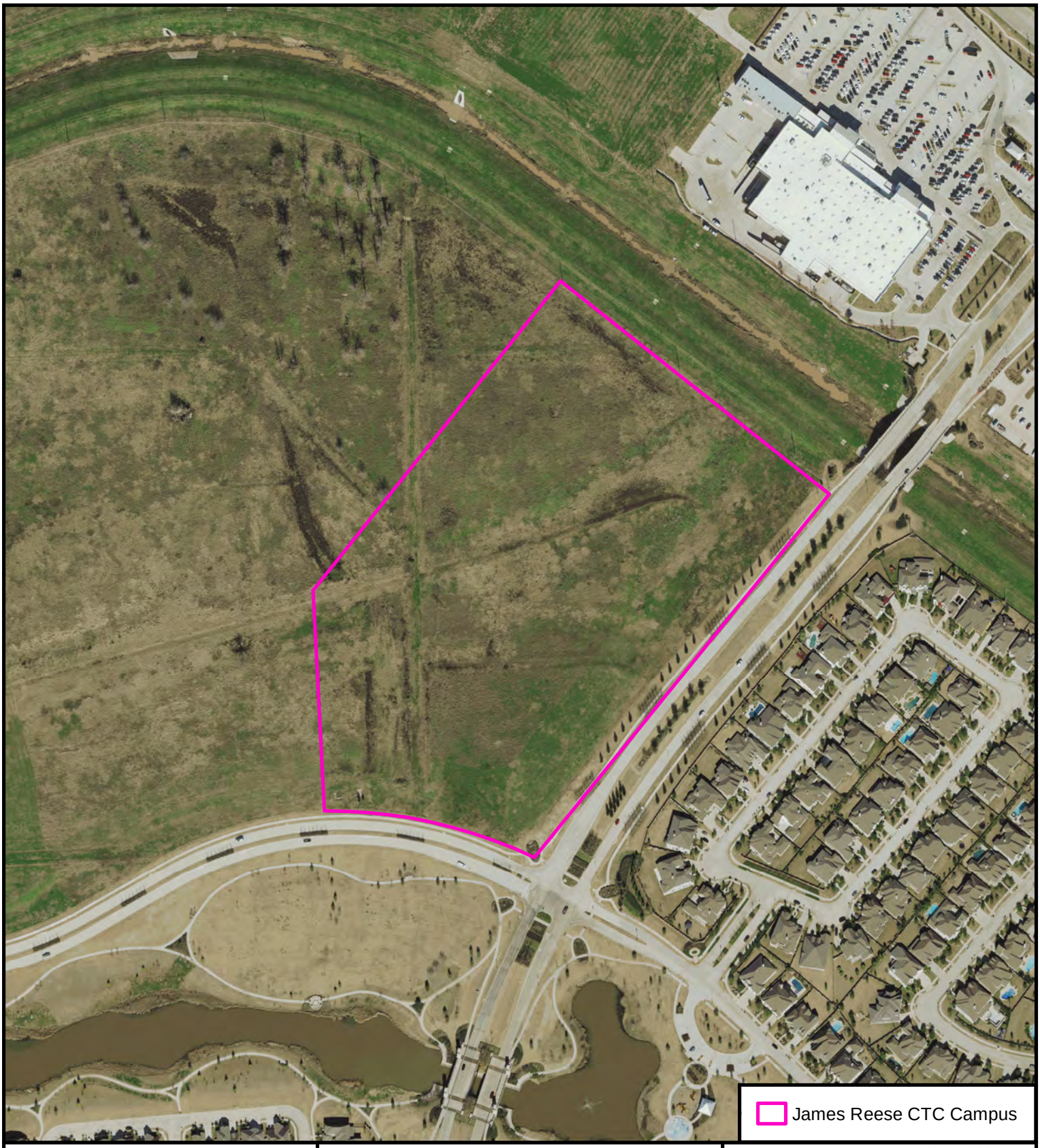

Map Source: USDA, 2013 NAIP Natural Color Imagery for Texas.

0 150 300 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.19
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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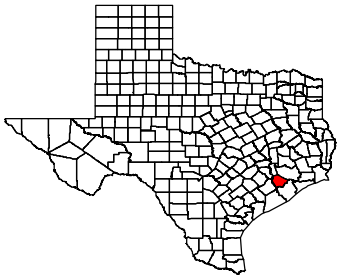

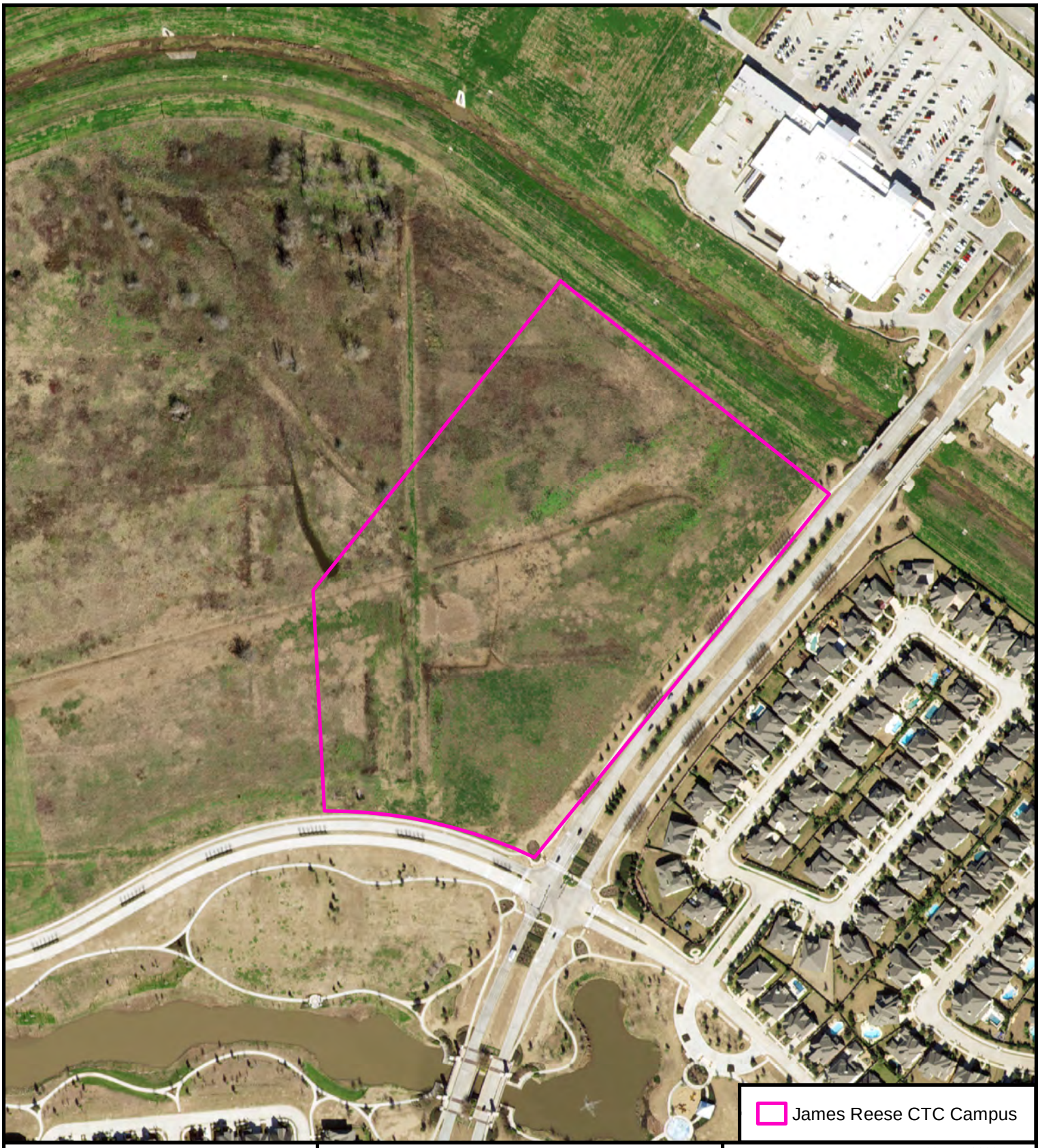

Map Source: USDA, 2014 NAIP Natural Color Imagery for Texas.

0 150 300 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.20
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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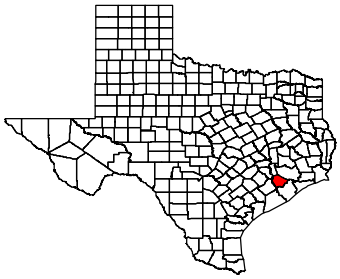

Map Source: USDA, 2016 NAIP Natural Color Imagery for Texas.

0 150 300 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.21
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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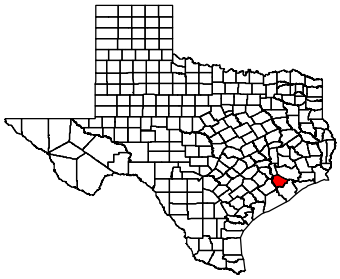

Map Source: USDA, 2017 NAIP Natural Color Imagery for Texas.

0 150 300 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.22
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 27 May 2020

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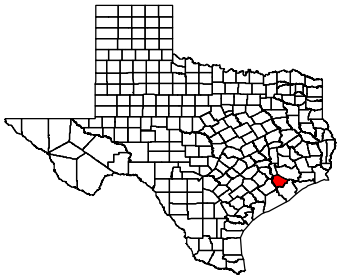

Map Source: Google Earth, 2019 Natural Color Imagery for Texas.

0 150 300 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.23
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 20 May 2020

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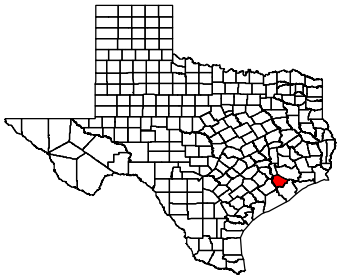

Map Source: Google Earth, 2019 Natural Color Imagery for Texas.

0 160 320 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 2.24
Historic Aerial Orthoimagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 3 June 2020

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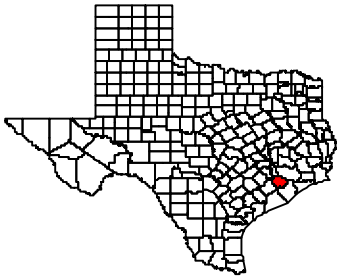


Boulevard and one point along Chatham Avenue. The Bullhead Camp Cemetery has been fenced temporarily for the purpose of reinterment to be completed in November of 2019. The cemetery area appears maintained as green space and no concrete flatwork or structure encroaches on its boundaries.

3.0 CULTURAL CONTEXT

3.1 PREHISTORY

The project area is located within the southeast Texas archeological region (Patterson 1995; Story 1990; Story et al. 1990). The cultural history of the region extends at least 12,000 years into the past. Notable archeological research has been conducted by Aten (1979 and 1983), Ambler (1967, 1970, and 1973), Black (1989), Mallouf et al. (1977), Patterson (1980), and Story et al. (1990). However, a lack of intensive investigations, a high rate of looting, and significant erosion and other disturbances that occurred throughout the region have left barriers to fully understanding and dating the time periods of occupation (Perttula 2004). The following cultural background is divided into several periods: Paleoindian (11,200 to 6,050 B.C.), Early Archaic (6,050 to 2,500 B.C.), Middle Archaic (2,500 B.C. to A.D. 400), Late Archaic (A.D. 400 to 700), Late Prehistoric (A.D. 700 to 1750), and Historic (A.D. 1750 to present) (Aten 1983; Pertulla 2004; Turner and Hester 1999).

3.1.1 Paleoindian Period (ca. 11,200 to 6,050 B.C.)

Recent archeological evidence indicates prehistoric people may have occupied Texas prior to the Paleoindian Period. However, the controversial sites that show evidence of an earlier habitation have not yet been widely accepted by the archeological community. For this reason, the prehistoric period will begin with the Paleoindians around 11,200 B.C. In east Texas, the earliest sites only date to around 9,200 B.C., and the Paleoindian Period spans over 3,000 years to about 6,050 B.C. (Ensor and Ricklis 1998). Coinciding with the decline of the Wisconsin glaciation, the Paleoindian Period is characterized by a relatively cool, moist climate that encouraged the development of now-extinct species of Pleistocene megafauna, such as bison. This period is sometimes called the Big Game Hunting tradition (Willey 1966), due to a presumed heavy reliance by Paleoindian peoples on megafauna as a food source during the earlier portion of the period. These conclusions are based on the well-documented exploitation of megafauna in the western United States and evidence of similar species in north Texas between 11,000 and 9,000 years ago (Slaughter and Hoover 1963). One radiocarbon date from the Lubbock Lake Landmark pushes the date back to 11,500 years ago (Holliday 1987:22).

One major geological feature of the Paleoindian Period that greatly differs from the present is sea level. It has been estimated that during the Paleoindian Period, the Gulf of Mexico coastline was between 30 and 40 kilometers seaward of its present location (Aten 1983:116-117). Forests appear to have occupied much of the upper Texas coast and probably extended onto the now submerged continental shelf. It is likely that some Paleoindian sites, currently located off the coastal shore, are deeply buried in the terraces of major streams, or have been obliterated by Holocene erosion (Abbott 2001:98; Hester 1980:7–8). Paleoindian remains have been recovered along McFaddin Beach, where cultural remains were redeposited from an actively eroding site offshore (Long 1977; Turner and Tanner 1994). Evidence of early Holocene shell middens, along now-inundated paleochannels of the Sabine River, have been reported by Stright (1986, 1990). Environmental changes that brought about the extinction or dislocation of megafauna precipitated a shift toward smaller game, creating the transition into the Archaic (Aten 1983:146-148; Willey and Phillips 1958:107).

Social organization in the Paleoindian Period likely consisted of loosely structured and highly mobile groups composed of several nuclear families, often referred to as “bands.” Archeological sites of this period are often representative of transient camps along small streams occupied by band-sized or smaller groups. Larger occupation sites, often referred to as “base camps,” are relatively rare. Overall population density is thought to have been rather low during this period.

Temporally diagnostic tool types attributed to this period include a variety of finely chipped, sometimes fluted, lanceolate projectile point styles, such as Clovis, Folsom, Plainview, and Scottsbluff (Prikryl 1990; Willey 1966). Many of these projectile points are made of non-local lithic materials, supporting the idea of a widely mobile group. The Paleoindian projectile point types show a transitional change between earlier Paleoindian points and Early Archaic points. By the late Paleoindian Period, unfluted lanceolate projectile points such as Plainview, Golondrina, and Angostura are more common (Story et al. 1990).

3.1.2 Archaic Period (6,050 B.C. to A.D. 400)

Following the close of the Pleistocene, the southeast Texas region experienced a trend toward a warmer, drier climate. It has been postulated that this climate shift was at least partially responsible for the extinction of megafaunal species. The archeological record of this period exhibits evidence of a gradual diversification in subsistence patterns. This is the beginning of the Archaic Period, which lasts from about 6,050 B.C. to A.D. 400 (Aten 1983:152–157). The Archaic Period is divided into three time periods: the Early Archaic (6,050 to 2,500 B.C.), the Middle Archaic (2,500 B.C. to A.D. 400), and the Late Archaic (A.D. 400 to 700) (Perttula 2004; Turner and Hester 1999).

Few Archaic sites are recorded on the upper Texas coast (Aten 1983:153; Story 1985:28–29). Story (1985:31–34) suggests site density was low on the coastal plain during this period. Archaic sites, tested or excavated near the modern shoreline, generally consist of shell-bearing sites with varying degrees of lithic tools and debitage, shell and bone tools, and the bones of fish, mammals, and reptiles (Ambler 1967, 1970, 1973; Aten 1983; Ensor 1991, 1998). Inland sites tend to contain more lithic artifacts and debitage, with terrestrial mammal bones comprising the bulk of the inland faunal assemblages. Archaic patterns in toolmaking for the south Texas region are centered on corner-notching technology and triangular points, moving away from the basal-notching technology. This temporal period has often been referred to as the Archaic Continuum, but more recent investigators have divided this into the Early, Middle, and Late Archaic Period. For this report, these three subdivisions will not be discussed.

3.1.3 Late Prehistoric Period (A.D. 400 to 1750)

The Late Prehistoric Period in the prairie savannah and gulf coastal plain of Texas saw a continuation of many of the same cultural and subsistence patterns in place, during the Late Archaic, (e.g. cemeteries and burned rock features) with two very significant technological adaptations: a heavier reliance on ceramics by certain groups and the introduction of the bow and arrow. However, a study at the George C. Davis site (41CE19), in the Piney Woods region along the margin of the Prairie Savanna (Shafer 2006; Shafer et al. 1975), shows some similarities to the Coastal Plain region. Based on technology, Shafer hypothesized these Late Prehistoric people, referred to as the “Prairie Caddo,” were culturally distinct from other populations occupying the central Texas prairie during the

Late Prehistoric. Shafer's study, when coupled with the archeological evidence from sites located along the eastern and southern margins of the Prairie Savanna archeological region, supports the notion that the Prairie Savanna is a transitional zone between central Texas, northeast Texas, and the Texas coast (Kotter et al. 1991; Skelton 1977). This is particularly true for the relatively complex Late Prehistoric Period.

Throughout east-central Texas and the Prairie Savannah, both sandy paste ceramics and Caddo ceramics have been found. Thus, it appears that an indigenous ceramic tradition, with ties to the east, existed in the region by about A.D. 1200 to 1300 (Shafer 2006). Evidence from sites such as those found along Allens Creek, on the coastal plain in the Brazos River Valley (41AU31, 41AU36, 41AU37, and 41AU38), exhibit characteristics of both coastal and inland cultures (Hall 1981). The coastal ties are best represented in the ceramic assemblage dominated by sandy paste pottery and subsistence is more similar to inland cultures, where sources included deer, antelope, a variety of small mammals, and river mussels.

Sometime around A.D. 1300 to 1350, the distinctive Toyah culture appears in the central Texas archeological record and rapidly spreads east-southeast onto the Blackland Prairie and the inland coastal plain. The Toyah interval brought with it a distinctive artifact assemblage known as the Toyah toolkit or technocomplex (Prewitt 1985). The rapid adoption of this toolkit is generally assumed to be tied to the hunting and processing of large game animals, particularly bison. The toolkit was comprised of blade flake production (as opposed to the bifacial core reduction) of Perdiz arrow points, Harahey knives, large flake/blade end scrapers, beveled knives, flake perforators, and arrow-shaft abraders.

Cemetery sites are more common during the later portion of the Late Prehistoric Period. The Smith Creek Bridge site had a well-preserved component bearing Morhiss projectile points, dating to around 800 B.C., suggesting affiliation with the Morhiss Mound site in Victoria County.

3.2 Historic Period (A.D. 1750 to Present)

3.2.1 Historic Native Groups in the Area

Among the inheritors of the Toyah culture were the Sanan speakers such as the Emet, Sana, Sijame, and Toho living east of the Edwards Plateau. Although these groups utilized Toyah stone toolkits, they also produced pottery of a different type than the Classic Toyah culture sites (Johnson and Campbell 1992). In addition to Sanan speakers, Tonkawa-speaking groups are known to have been in the region between the Guadalupe and Trinity Rivers (Foster 1995). They were not native to the area, as their ancestral homeland was located far to the north. Tonkawa speakers probably did not arrive in east-central Texas until about the middle of the 18th century (Prikryl 2001:66).

3.2.2 European Contact (ca. 1750)

When Europeans arrived on the upper Texas coast, they encountered two major native groups, the Atakapa and the Karankawa (Newcomb 1983). These groups occupied separate territories divided by the western shore of Galveston Bay. The Atakapa, speaking a language of the Tunica family, displayed traits closely related to the natives of southwestern Louisiana. The Karankawa groups

spoke a language of the Coahuiltecan family and were more closely related to natives farther south in Texas and Mexico (Ricklis 1996).

Initial exploration of the Gulf of Mexico and the American Southwest was accomplished by Spanish explorers Alonso Alvarez Piñeda (1519) and Alvar Nunez Cabeza de Vaca (1528). The Spanish Crown sanctioned both explorers in its quest to observe and record the character and economic potential of the territory and its people. This activity by Spain occurred within the context of greater colonial expansionist efforts, undertaken by the primary Western European powers, throughout the sixteenth century. Following Piñeda's initial maritime effort to map the Gulf Coast, the earliest exploration of the Texas Gulf Coast territory was accomplished by de Vaca, who shipwrecked in the Gulf of Mexico in 1528, along with other members of an expedition led by Pánfilo de Narváez (Weddle 1985).

By 1561, Spain was facing increasing difficulties in maintaining its few colonies in Florida. The relatively poor economic prospects for these colonies and increasing competition from other colonial powers quelled the Spanish Crown's interest in colonizing their Florida territories, which included Texas. As a result, the Texas Gulf Coast remained relatively uninhabited by Europeans for the next two centuries until the threat of increased French exploration in the territory stimulated the Spanish government to establish more permanent settlements in the area (Weddle 1985). In 1685, René Robert Cavelier and Sieur de la Salle established Fort St. Louis along the Gulf Coast (Tunnel and Ambler 1967). Plagued by disease, starvation, and Indian attacks, Fort St. Louis was no longer in use by late 1688 or early 1689 (Bruseth and Turner 2005).

In 1722, the Spanish established the mission of Nuestra Señora del Espiritu Santo de Zúñiga (also called La Bahia del Espiritu Santo), near the ruins of La Salle's Fort St. Louis, in an attempt to Christianize the indigenous people. The missionaries' escaped or abandoned livestock formed the nucleus from which vast herds of wild longhorn cattle and mustangs later developed in south Texas (Texas Beyond History 2006).

3.2.3 European Settlement

Although some attempts were made at settling the area, it was not until the 1750s that Spain started to push for more settlements within coastal and east Texas. Spain's defense of the region, then called Nuevo Santander, was to be achieved by establishing a series of missions and associated presidios for their protection across western, central, and eastern Texas. Mission Nuestra Señora de la Luz and its companion, Presidio San Augustín de Ahumada, comprised the Spanish ecclesiastical outposts in the Galveston Bay area (Tunnell and Ambler 1967). This mission, also known as Mission Orcoquisac after a principal Indian village located nearby, was founded in about 1756 and was met with considerable resistance from the local tribes in the area. The mission was ordered to relocate several times before it was abandoned in 1771 and officially discontinued in 1772 (Robert Wooster 2014).

After Spain recognized Mexico's independence in the early nineteenth century, the first land grants were issued by the Mexican government to encourage foreign settlement. Two empresario land grants went to Stephen F. Austin and Green C. DeWitt. It wasn't originally Stephen F. Austin's desire,

but that of his father's, Moses Austin, to become an empresario in Spanish Texas. In 1820, Moses had been in negotiations with Governor Antonio María Martínez, when he offered a proposal to bring 300 colonial families to Texas. His offer was flatly rejected, due to omissions reflecting little understanding of Spanish colonial law. Moses returned with the Baron de Bastrop, second alcalde of Bexar, and a revised proposal (Moore 2014). With the Baron's help, Moses was granted permission to begin colonization of Texas, but died before one colonist was brought to Texas from the east.

Mose's dream of colonization would come to fruition under his son, Stephen Fuller Austin. In December of 1821, Austin began bringing the first families to settle on the Austin land grants. For each married head of household, a grant comprised of one league (4,428 acres) and one labor (177 acres) of land would be issued. Unmarried males were eligible for one land grant of one half of a league (1,476 acres). While grant selection began in late 1821, actual titles were not issued by Mexican authority until mid-summer 1824. Austin would be awarded two additional large empresario grants, expanding his colony along the Brazos, Colorado, and Trinity Rivers.

3.2.4 Texas Revolution and the Runaway Scrape

Mexico continued in the tradition of Spain regarding settlement of Texas. Although few Mexican colonies had been established in Texas, Mexico was more willing to grant land to Anglo-Americans, especially in the coastal plain area, where land was fertile and less likely to have Indian problems. Between 1832 and 1835, several problems began to arise between the Anglo-American settlers and the Mexican government (Barker and Pohl 2014). Adding to the growing tensions, Antonio López de Santa Anna was elected president in 1833 and declared a dictatorship in 1834 (Calcott 2014). His military force and personal policies seemed to encourage the displacement of the Anglo-American settlers through political action and veiled threats (Barker and Pohl 2014). Tension between Anglo settlers and the Mexican government remained high until 1835 when dissatisfaction with Mexican rule came to a head at Gonzales, resulting in armed conflict.

Between the Battle of Gonzales and the Texas Declaration of Independence, Santa Anna decided to deal with the insurgents by handling them as no more than pirates. By labeling the rebels as pirates, Santa Anna was allowed to treat them outside the rules of war and without mercy (Barker and Pohl 2014). Santa Anna began his march to San Antonio early in 1836, amassing an army of 8,000 troops and irregular Tlaxcalan warriors. Although Santa Anna met problems related to weather and food, he arrived in San Antonio on 23 February (de la Peña 1975). The Alamo fell after 13 days of siege. All of the defenders were killed with only 30 women, children, and enslaved black survivors. Although the bloody way Santa Anna dealt with the defenders of the Alamo initially instilled fear in the Texans, the events in San Antonio later become a rallying cry (Barker 1901).

At the same time Santa Anna was busy with the Alamo, General José de Urrea was fighting his way toward where Fannin was stationed in Goliad (Barker and Pohl 2014). Although Fannin attempted to escape and move toward Sam Houston's location, his troops were overwhelmed by the Mexican army. After negotiating surrender terms, Fannin and his men were taken back to Goliad and imprisoned. Despite assurances by one of Santa Anna's officers that they would be treated as prisoners of war, Santa Anna felt they should be executed. The sentence was carried out on 27

March; 342 men, including Fannin, were executed (Davenport and Roell 2014). Because the Mexican army took the prisoners to a field near a tree line, 28 men were able to escape. In addition, another 20 were spared due to their skills as physicians, orderlies, interpreters, or mechanics.

Houston arrived in Gonzales around the time of the Goliad Massacre (Barker and Pohl 2014). There he learned from Susanna Dickinson, wife of an Alamo defender, of the fall of the Alamo and the advancement of the Mexican army towards Gonzales. He decided to retreat, burning the town to the ground to prevent the Mexican army from being able to use anything. In what was later known as the Runaway Scrape, Houston and numerous others began to make their escape toward the Colorado River with refugees from south-central Texas (Barker and Pohl 2014; Covington 2014). This flight took Houston and his army through Gonzales, Lavaca, Colorado, Austin, Waller, and Harris County (Anonymous 2014) on the way to San Jacinto.

Originally, Santa Anna believed that the Alamo and Goliad battles were proof that the war was over (Barker and Pohl 2014). It was only at the insistence of his officers that Santa Anna decided to pursue the Texan army. However, upon learning that the President, David G. Burnet, and his cabinet had left Washington-on-the-Brazos for Harrisburg, Santa Anna changed objectives and began pursuing the party. By the time Santa Anna arrived in Harrisburg, Burnet and his group had fled. Unknown to Santa Anna, he and Houston were both heading toward Lynch's Ferry (near modern-day Lynchburg), where the two armies met in a brief clash on 20 April. Santa Anna decided to pull back and wait for reinforcements despite the fact that his army numbered approximately 13,000 to Houston's 900. Houston launched a surprise attack on 21 April. In a battle that lasted 18 minutes, Houston and his men managed to kill, scatter, and capture Santa Anna's army while only losing nine men. After the surrender, the Mexican Army retreated through the rain-soaked coastal plain, leaving the dead in their wake (Dimmick 2006). The war was officially over with the two treaties of Velasco that were signed on 14 May 1836 (Barker and Pohl 2014; Barker 1901; Russell 2010).

3.2.5 Post Revolution

After the Texas Revolutionary War, the Republic of Texas remained an independent nation until its annexation into the United States in 1845 (Russell 2010). Texas's annexation attempts at purchasing northern California, and continued disputes with Mexico over the border between Texas and Mexico, ultimately led to the Mexican-American War in 1846. After several political and subtle military attempts to secure the Rio Grande as the border, President Polk finally ordered General Zachary Taylor and his men to the Rio Grande. Mexico interpreted this as a declaration of war and attacked Taylor's army on 25 April 1846. Polk used the incident to secure a declaration of war from Congress, which was given on 13 May 1846.

On 9 March 1847, the United States launched its first large-scale amphibious assaults at Veracruz, Mexico, under Commodore David Conner and General Winfield Scott (Bauer 2014). Scott began the march to Mexico City. He received reinforcements in Puebla from Colonel John Coffee Hays, who led a contingency of Texas Rangers. Upon arriving in Mexico City, Scott began attacks on the city and outlying towns. The final assault began on 13 September 1847 and ended on 14 September 1847. Although Santa Anna escaped, the Mexican government essentially collapsed. Due to the lack of government, it was not until February 1848 that a functioning governing body could be formed in

Mexico and the Treaty of Guadalupe Hidalgo could be signed. With the end of the Mexican-American War, the United States gained California, Arizona, and New Mexico, along with portions of Utah, Nevada, and Colorado. In addition, the Rio Grande was officially established as the Texas-Mexico boundary (Russell 2010).

Coastal Texas flourished after the end of the Mexican-American War. The local economy was mainly based on cotton and sugar plantations (Hudgins 2014; Long 2014; Ott 2014). However, in the years leading up to the 1860s, tensions between southern states and northern states began to arise (Foote 1986; McPherson 1988).

3.2.6 Civil War

As the southern states became increasingly unhappy with federal policy dealing with restrictions on free trade and increasing support of federal legislation in regard to the abolition of slavery, the tensions that had been building between the southern states and northern states finally reached a breaking point in 1860 (Foote 1986). South Carolina became the first state to secede from the United States on 20 December 1860. Once South Carolina declared independence, several other states, including Texas, followed and formed the Confederate States of America (CSA). On 28 January 1861, the convention at Austin voted 166 to 8 in favor of secession (Ralph Wooster 2015). Texas voters approved the ordinance of secession 46,153 to 14,747 on 23 February. By March, Texas declared secession from the United States and joined CSA. On 12 April 1861, Confederate troops attacked Fort Sumter in South Carolina, beginning the Civil War (McPherson 1988).

Texas saw few major Civil War battles (Ralph Wooster 2015). In addition to fighting Union invasions, much of the Texas military also fought native forces that still remained and attempted to expand into New Mexico Territory. However, more effort was required by the military to maintain control of the Texas coastline and ports. Overall, Texan forces were more successful at fighting along the coast than at their attempts at expansion into New Mexico. Control of the waterways was significantly more successful than attempts made in Louisiana during the Civil War (Smith et al. 1983). Although the Union attempted to seize the Texas coast in November 1861, it was not until 4 October 1862, at the Battle of Galveston, that Union troops were successful in taking a Texas coastal port (Wooster 2015). Even this victory for the Union was short lived; Confederate troops, led by General John Bankhead Magruder, began their assault on Union troops and ships stationed at Galveston in the early morning of 1 January 1863. Between Union ships running aground and the explosion of the ship *Westfield*, Confederates were able to recapture Galveston. Although another attempt was made to take Galveston in the fall of 1863, it was an immense failure that resulted in the loss of two Union ships and the capture of several soldiers. The only town along the Texas coast seized during the Civil War was Brownsville; however, even this capture was short-lived. The town was taken in November 1863, and by the summer of 1864 most of the area was recaptured by Confederate troops.

In addition to the attempts of Union forces to take Texas port towns, Texas Confederate troops and residents also had to deal with the Union blockade of the coast (Wooster 2015). Success of the blockade is difficult to measure. Ships loaded with cotton were able to sail out of Galveston on a regular basis, and other vessels containing trade goods, munitions, and Enfield rifles were equally successful at docking at the port. However, blockade runners were never well organized, so the

efficiency of supplying troops in a timely manner was often low. As the war progressed, the number of Union ships along the blockade grew, making the trade of goods more difficult. Trade along the Mexican border was able to partially compensate for the lack of goods coming by sea. Although Texas suffered less economically during the Civil War than other Confederate states, the blockade was efficient at preventing the arrival of a number of commodities, including shoes, medicine, clothing, and farm implements. In order to adjust to the lack of goods, many Texans became quite creative. Texans spun their clothing at home, used willow bark extract and red pepper instead of quinine, and used thorns as pins.

Overall, Texas troops were fairly successful during the Civil War. Conversely, defeats to the east and the eventual surrender of General Robert E. Lee in April 1865 ended the Civil War. As word of the Confederate surrender had not yet spread to Texas, the last battle of the Civil War was fought near Brownsville on 13 May 1865, where Confederates learned of Union victory from captives of the battle. On 19 June 1865 (commonly known as Juneteenth), General Gordon Granger arrived in Galveston with Union occupational forces, definitively marking the end of the Civil War and the beginning of Reconstruction.

3.2.7 Fort Bend County History

In November 1821, the schooner *Lively* brought the first of Austin's Old Three Hundred to the mouth of the Brazos, from where a few men traveled upriver 90 miles to a high bluff and built the first homes. The place was called Fort Settlement or Fort Bend and was the beginning of Anglo colonization of Coahuila y Texas. The indigenous Karankawa fought a few skirmishes and retreated south along the Gulf Coast (Ott 2014).

In 1837, the new Republic of Texas passed an act incorporating 19 towns, including Richmond, named after Richmond, Virginia, the hometown of William Lusk. Seven other businessmen including Branch T. Archer, Thomas Freeman McKinney, and Samuel May Williams were its first proprietors. The boundaries of Fort Bend County were fixed in 1837.

The economy prospered as cotton plantations produced yearly crops to be shipped overseas to a world market from the town of Quintana at the mouth of the Brazos. The decline of the market after the civil war and a shift to prison labor and sharecropping slowed the inevitable sprawl from a burgeoning Houston population. Today, Fort Bend County is rural in the west and urban to suburban in the east, where land development is very active, and a myriad of small towns have grown to form the Greater Sugar Land Area.

3.3 Project Vicinity Cultural Resources

Currently, there are 372 recorded archeological sites in Fort Bend County, Texas, 20 of which are listed as State Antiquities Landmarks (SALs). There are seven National Register of Historic Places (NRHP) listings, including the Fort Bend County Courthouse in Richmond, Texas. The closest NRHP property is the Imperial Sugar Company Refinery Historic District located approximately 1,740 meters north-northeast of the project. The property was the former headquarters and manufacturing plant for processing sugarcane. Initial milling of cane began in 1843 on the Oakland Plantation, becoming first the Imperial Mill around 1883 and then the Imperial Sugar Company after the turn of

the century (Clark and Ralph 2015a). According to the THC Archeological Sites Atlas (Atlas), the next nearest NRHP-listed property is the Lamar House, located approximately 6.6 miles west of the project area, in Richmond, Texas.

Over 185 historic homes and features have been added to the THC database as a result of neighborhood surveys. There are no military sites or shipwrecks recorded, but over 99 historical markers and 117 cemeteries have been documented in Fort Bend County.

Numerous previous archeological investigations, many recording archeological sites, have been conducted in Fort Bend County and the surrounding area, with many occurring within 2 kilometers of the project area (Table 3.1). One of the earliest investigations in the vicinity was conducted in 1947 by Joe Ben Wheat, under the auspices of the Smithsonian Institution, at the Addicks Dam Basin in Harris County (Wheat 1953). This investigation revealed the presence of several mounds occupied or used as burial grounds by prehistoric peoples. Recent excavations at 41HR184 on Buffalo Bayou near Addicks Reservoir reinforce Wheat's study and add to the growing literature on the rich cultural heritage of early inhabitants (Costa and Stoddard 2020).

The project area is closest to the Imperial Farm Cemetery (41FB270), located approximately 2,200 670 meters west of the western extent of the APE. Also known as FB-C121, or the Central Unit Prison Cemetery, it was active between 1912 and 1943 according to THC's Atlas records (Clark and van Zanten 2019).

The next closest site (41FB336) is an insignificant brick scatter located on the north side of US Highway 90A northwest of the project area (THC 2018b). Other sites include the Central Prison Farm Complex (41FB347 [Clark and Ralph 2015a]), the Walker Railroad Station (41FB348 [Clark and Ralph 2015b]) both located north of the JRCTC.

A major study by Moore and Moore (1991) was conducted on land north of the project area, which resulted in recording 41FB220, an historic farmstead. The historic complex, discovered during a Harris County Parks and Recreation Department survey, was recommended for inclusion on the NRHP (Moore and Moore 1991), but no action was taken by the THC, and the site has been neglected since the archeological investigation.

Another study, conducted by Steve Carpenter with the Texas General Land Office (2001), was north of the project area. The investigation resulted in the recording of 41FB285 (Pryor Station), an historic railway station located immediately south of the current day hangar complex for the Sugar Land Regional Airport. The main site configuration measured approximately 40 meters in diameter, covering an area of 0.31 acres, although the artifact scatter was much larger. Shovel testing produced window glass, green bottle glass, anthracite coal, brick fragments, and rusted metal. The site was located on the Imperial Valley Railroad and may have been the Pryor Station mentioned in various references and maps.

Carpenter also recorded the Imperial (Central) Prison Farm Camp Number 3 (41FB284) with structural remains and a rich assortment of historic artifacts found below the ground surface. Lack

of site integrity and other factors led to Carpenter's recommendation in 2001 that the site was not eligible for listing on the NRHP.

A recent study was conducted by HRA Gray & Pape, LLC (Soltysiak 2010). The project entailed survey and targeted deep testing of a 743-acre private parcel that included the Imperial Sugar Complex and the Imperial Prison Farm Camp Number 3. A revisit of site 41FB284 confirmed Carpenter's recommendation that the site was not eligible for listing on the NRHP.

Archival research conducted using the THC's Atlas database resulted in the identification of 30 previously recorded archeological sites situated within a 2.0-kilometer radius of the proposed APE (THC 2018b, Table 3.1). In addition to the THC's Atlas database search, the archival work included review of historic aerials and topographic maps (Section 2.8). No early topographic maps or aerial orthoimagery depicted any indications of a cemetery within the tract.

The initial archival work also included review of the report entitled *Hell-Hole on the Brazos* by Amy Dase (2004). This report details survey work conducted near vestiges of the Imperial Prison Farm and the 1939 Central State Farm Prison Unit, also known as Two-Camp. The report revealed no structures or indication of a cemetery being present within the JRCTC.

Table 3.1: Archeological Sites within 2 Kilometers of the Project Area

Site	Time Period	Type	Site Size	Features	Artifacts	Landform	NRHP Recommendation	SAL Recommendation
41FB159	1920s & historic	Watering station & windmill	82 by 82 feet	Motorized windmill, concrete tank, & pipes	None	Flat prairie by Alcorn Creek	Not recommended	Not recommended
41FB160	1920s to 1940s	Outlying dairy structure	656 by 246 feet	None	Plastic, metal, & glass	Near shallow depression adjacent to Alcorn Bayou	Not recommended	Not recommended
41FB162	Historic 20th century	Shed & homestead	164 by 49 feet	Post & tin shed	None	Adjacent to Alcorn Bayou	Not recommended	Not recommended
41FB163	Historic 20th century	Shed & homestead	131 square feet	Two posts, part of a grate, corral, electric pole, well with pipe, electric hook up, pole, lumber, & tin shed	Wire nails & clear glass	Near Alcorn Bayou	Not recommended	Not recommended
41FB164	Historic	Historic residence	164 square feet	23 brick and mortar footings, electric pump, residence, & small wood-framed shed	Clear glass, part of a key, & brick fragments	Edge of improved pasture south of a canal	Not recommended	Not recommended
41FB196	Prehistoric though Ceramic Period	Campsite	Unknown	None	Two sherds (Goose Creek Plain sherd and bone tempered and incised) & 6 flakes	Low ridge on northern floodplain margin of Oyster Creek	Not recommended	Recommended for further testing
41FB197	19th century historic	Historic residence	Unknown	None	Historic debitage	Eroded gully connecting with Oyster Creek	Not recommended	Recommended for further testing & possible SAL nomination

Site	Time Period	Type	Site Size	Features	Artifacts	Landform	NRHP Recommendation	SAL Recommendation
41FB199	Prehistoric & 19th century historic	Prehistoric campsite & historic residence	164 by 656 feet	None	Flakes, bone, ceramics (a red-filmed sherds), brick, glass ceramics, mortar, & metal	Sandy ridge south of White Lake	Not recommended	Eligible
41FB200	Undifferentiated prehistoric & 19th century historic	Prehistoric campsite & historic residence	66 by 623 feet	None	Flakes, retouched flakes, cores, arrow points, pottery, bone, shell, brick, glass, & metal	Low sandy ridge ±500 feet south east of White Lake	Potentially eligible	Eligible
41FB204	Undifferentiated historic	Historic scatter	1,410 square feet	None	Wood, brick, shell, & organic matter	Western bank of Oyster Creek	Not recommended	Not recommended
41FB205	Undifferentiated historic	Historic scatter	33 square feet	None	Metal, glass, & part of a metal water pump	Northern bank of Oyster Creek near large meander	Not recommended	Not recommended
41FB206	Undifferentiated historic	Historic scatter	33 square feet	None	Glass, ceramics, shell, & bone	Upland terrace on north bank of Oyster Creek & south of Pumpkin Lakes	Not recommended	Not recommended
41FB207	Undifferentiated historic	Historic	65 Square feet	Well	Glass, metal, brick, shell, & button	Northeast bank of Oyster Creek within a large meander	Potentially eligible	Further testing needed for determination
41FB208	Undifferentiated historic	Historic scatter	131 square feet	None	Bone, glass, & metal	Sandy ridge north of Pumpkin Lakes	Potentially eligible	Further testing needed for determination
41FB209	Undifferentiated historic	Historic (chimney)	131 square feet	None	A scatter of handmade bricks	Low-lying area on east bank of Pumpkin Lakes	Not recommended	Not recommended
41FB211	Undifferentiated prehistoric	Campsite	197 square feet	None	Flakes, pottery, & burned clay	Sandy ridge on east bank of Red Gully	Unknown potential	Potentially eligible
41FB212	Undifferentiated prehistoric	Campsite	33 square feet	None	Flakes	Sandy ridge northeast of Red Gully	Unknown potential	Potentially eligible
41FB213	Prehistoric & Historic	Multi-component prehistoric camp site & historic midden	196 by 459 feet	None	Flakes, pottery, glass, metal, brick, & crockery	Upland terrace north of Oyster Creek	Unknown potential	Potentially eligible
41FB214	Late Prehistoric	Prehistoric campsite	66 square feet	None	Flakes, biface, & ceramics	East end of a sandy ridge west of White Lake	Unknown potential	Potentially eligible
41FB218	Undifferentiated historic	Historic	180 feet along the bank	None	Brick, embossed glass, metal, ceramic, & bone	East bank of Oyster Creek	Not recommended	Recommended for further testing
41FB219	Undifferentiated historic	Historic & possible midden	1,312 square feet	None	Ceramics, oyster shell, glass, & concrete	East bank of Oyster Creek	Not recommended	Recommended for further testing
41FB220	Undifferentiated	Historic residence	300 by 1,000 feet	House, garage, outhouse, 2 sheds, barn, stable, concrete path, & bridge	Glass, ceramics, metal, bone, shell, brick, & mortar	East bank of Oyster Creek	Not recommended	Not recommended
41FB270	No Information on Atlas	Cemetery & historic	NA	No Information on Atlas	No Information on Atlas	Upland terrace west of Bullhead Bayou	Potentially eligible	Potentially eligible

Site	Time Period	Type	Site Size	Features	Artifacts	Landform	NRHP Recommendation	SAL Recommendation
41FB285	1920s & 1960s	Historic Railway Station (Pryor?)	131 feet diameter (0.31 acres)	None	Window glass shard, whiteware sherds, sundry rusted metal, nails, strap iron, & fragments of green glass bottle red brick, anthracite, metal & porcelain plate	East bank of Oyster Creek oxbow on the abandoned Sugar Land railroad	Not recommended	Not eligible
41FB316	Historic	Historic structure	370 square feet	1940s storage shed	Whiteware, glass, metal, brick, & cement	Open pasture north of Oyster Creek	Not recommended	Not eligible
41FB317	Historic	Historic scatter	Unknown	None	1900s glass medicine bottle, glass, whiteware, & metal	Low-lying open field south of Oyster Creek	Further investigation	Further investigation
41FB318	Historic	Historic structure	Unknown	Structural foundation remnants	Nails, metal, wood, & red brick	Lowlands south of Oyster Creek	Further investigation	Further investigation
41FB336	Historic	Historic scatter	40 by 16 feet	None	Bricks, a modern reflector fragment, & mussel shell	Upland northeast of Bullhead Bayou	Not eligible	Not eligible
41FB347	Historic	Central State Farm Prison Unit 1	680 by 1,128 m 98 acres	Nearly 100 standing structures	Bricks, metal, glass, shell, ceramic, etc	South and East of Oyster Creek	Eligible, only some structures contribute to eligibility	Eligible
41FB348	Historic	Walker or Sartartia Station	40 by 16 feet	None	Bricks, metal, glass, pottery, and oyster shell	South of an oxbow of Oyster Creek, Bullhead Bayou to the South	Eligible	Eligible

4.0 PHASE ONE: ARCHEOLOGICAL MONITORING

4.1 INTRODUCTION

Goshawk conducted construction monitoring for the JRCTC in Fort Bend County, Texas. The project, sponsored by FBISD, was located at the intersection of University Boulevard and Chatham Avenue on the south side of the rechannelized Bullhead Bayou in Sugar Land (Figure 1.1). The APE consisted of the JRCTC tract, a 23-meter-wide permanent storm sewer ROW, and an 8-meter-wide temporary construction easement.

After securing Texas Antiquities Permit 8197 from the THC (2017), construction monitoring began on 17 October 2017. First, topsoil was removed from most of the site, exposing artifacts and features. Next, trenches for water, wastewater and storm sewer were monitored on a daily basis. Finally, at the direction of the archeological monitors, a series of single set trenches was excavated away from previous trenching to complete the first phase of work. Monitoring ended in early January 2018 and a report of investigations was written to satisfy permit requirements.

4.2 BACKGROUND AND METHODOLOGY

Because the site was formerly part of the agricultural complex associated with the State of Texas Central Prison Farm and located adjacent to the Imperial Farm Cemetery, the THC reviewed the project (Crow 2011; SWCA 2011) and recommended professional archeological monitoring during earthmoving activities (THC 2017). The THC was concerned that historic deposits related to the Flanigan house and plantation (Dase 2004) and human burials related to the prison farm might be present within the JRCTC tract.

Prior to commencement of the field effort, site files for Fort Bend County and the Sugar Land, Texas topographic quadrangle on the THC's Archeological Sites Atlas (Atlas) online database (THC 2018b) were consulted for previously recorded site locations, references to previous archeological surveys undertaken, and place names of interest near the project area.

Open ground, trench walls, pit walls, and backdirt were visually inspected throughout the project. Samples of the excavated trench matrix were sifted through ¼-inch hardware cloth when appropriate, although most soils had a high clay constituency and were hand-sorted. Trench walls were inspected and troweled as necessary to reveal cultural resources. Features found during soil removal and trench wall profiling were sketched and photographed. Feature and profile locations were recorded with a hand-held Global Positioning System (GPS) unit and transferred electronically to topographic base maps. Historic artifacts found during monitoring were assessed, and a representative sample was photographed and left in place. No artifacts were removed from the project area other than a representative sample of brick and metal.

The investigation was performed under the provisions set forth by the THC with terms specified under Texas Antiquities Permit 8197 under a Scope of Work. Cultural resources monitoring of the JRCTC tract, was performed according to Council of Texas Archeologists (CTA) survey standards, in compliance with the THC's Rules of Practice and Procedure, Chapter 26, Section 27 (THC 2018a, CTA 1995 and 2020), and under the general guidelines of the Register of Professional Archaeologists (RPA 2018). All work was performed in compliance with the US Department of the

Interior (Interior 1977) rules and regulations such as the National Historic Preservation Act of 1966 (PL 89–665), as amended in 1974, 1976, 1980, and 1992; the National Environmental Policy Act of 1969 (PL 91–190, 83 Stat. 915 USC 4231, 1970); the Procedures for the Protection of Historic and Cultural Properties (36 CFR 800); the Archaeological Resources Protection Act of 1979.

4.3 Observed Site Conditions

The JRCTC is located on the United States Geological Survey (USGS) 7.5 minute topographic Sugar Land, Texas quadrangle (Figure 1.2). It is bisected by a swale that is the remnant of in-filled Bullhead Bayou crossing on an east—west axis. The project area is located in old agricultural fields. The dominant local land use is suburban housing, business, and light industry (Figure 1.3). Vegetation within the JRCTC consists of Bermuda grass, native grasses, and forbs that had recently been mowed at the time of the field effort.

The NRCS Web Soil Survey (NRCS 2017) was consulted to determine the major soil types within the project area prior to commencement of the field effort. The soil types within the project area consist of Brazoria clay, Clemville silty loam (two types), and Norwood loam. These clayey bottomlands were derived from alluvial deposits. These soil types are considered prime farmland and have been farmed in the area for over 180 years. The surface texture was confirmed to be very loamy and even sandy in places. Dense clays were found throughout the JRCTC at depth. See chapter 2.0 for detailed soil descriptions and other environmental factors.

4.4 The Monitoring Effort

Goshawk conducted cultural resources monitoring consisting of topsoil scraping, trenching, and single set trench excavation within the JRCTC at the request of FBISD. Principal Investigator/Project Archeologist Ron Ralph and archeologist Keith Faz began monitoring on 14 October 2017 and continued monitoring through 9 January 2018.

Topsoil scraping consisted of removing up to 60 centimeters (depending on location) of soil by bulldozer. This phase lasted from 14 October 2017 through 18 October 2017 and culminated with a drone flight to assess progress (Figure 4.1). Several features (N=15) were delineated during monitoring and recorded with photographs and sketches.

Trackhoe excavations for storm sewer and sanitary sewer line trenches were continuously monitored from 27 November 2017 through 19 January 2018. This phase consisted of the monitoring of over 5,250 linear meters of trenches, or approximately 40% of the total trenching operation. Trench profiles were recorded, and two additional features were delineated. The THC determined that the monitoring effort, to that point, provided sufficient coverage. Single set trenches were conducted across the JRCTC on 18 January 2018 in agreement with Bill Martin of THC. Twenty small test excavations were conducted in areas of the JRCTC that were not subjected to trench monitoring. Profiles and photographs documented this final phase of monitoring.

Electronic and paper data was prepared for curation in accordance with THC guidelines and the provisions of the TAC permit. All field paperwork and photography were prepared for curation at the Texas State University, Center for Archaeological Studies in accordance with the Antiquities Permit

Map Source: Drone Imagery; Google Earth Imagery 2019

0 80 160 Feet

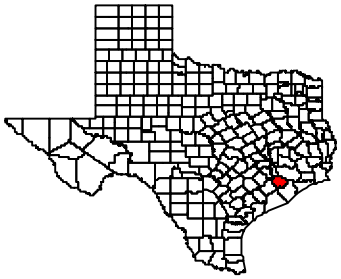
GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 4.1
Drone Collected Aerial Imagery
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 17 June 2020

N



8197. Following the monitoring effort, a letter report of negative findings was sent to THC reviewers for concurrence. After concurrence, production of a report of investigations was initiated.

4.5 Documented Features

Two Goshawk archeologists monitored vegetation clearing, preliminary grading, and soil removal within the tract. Preliminary topsoil removal was conducted with bulldozers, and soil was moved off site using large front-end loaders. This phase of operations lasted for five days (14 through 18 October 2017). Thirteen features recorded during this phase were sketched, photographed, and plotted (Figure 4.2). None of the features could be accurately assigned to any historic time period or known occupation of the site. Displaced artifacts were examined, often photographed, and returned to the ground surface. See Appendix B for a representative set of artifact photos.

Features found during the field effort included modern concrete slabs, sidewalks, dumps, retaining walls, and two possible mule troughs (Table 4.1).

Table 4.1: Features Observed During Monitoring Phase

Feature	Waypoint	Provenience	Function	Description
1	RR6	Southwest corner	Store front	Concrete slabs (2) and walkway
2	RR7	Southwest corner	Store back	Material storage yard with pop-up sprinklers
3	RR1	West of road at culvert	Fill	Crushed oyster shell and brick fragments
4	RR2	East of road between concrete culverts	Retaining wall	Segment of retaining wall between east side of the road and the agricultural field; mortar and 3-hole brick; 2 rows wide; plastered on east side facing agricultural field east
5	RR3	South side of ditch	Retaining wall	Segment of retaining wall between east side of the road and the agricultural field; yellow brick in a wall segment
6	RR4	East of road between concrete culverts	Retaining wall	Segment of retaining wall between east side of the road and the agricultural field; dozed out of the main run long ago; metal strap in mortar
7	RR5	South end of wall	Retaining wall	Segment of retaining wall between east side of the road and the agricultural field
8	RR8	Middle wall	Retaining wall	Segment of retaining wall between east side of the road and the agricultural field; intact and cleaned
9	RR9	Displaced wall segment	Retaining wall	Segment of retaining wall between east side of the road and the agricultural field; 8-hole brick
10	RR10	West of road, north of well	Mule trough	Concrete and brick pad, broken by bulldozer with associated low brick walls
11	RR11	West and north of Feature 10	Mule trough	Circular (4.5-meter-diameter) concrete pad with brick apron

Feature	Waypoint	Provenience	Function	Description
12	RR12	North and west of Feature 11	Equipment shed	Concrete square (8.7 by 9.0 meters) oriented north
13	RR13	East of road near dogleg	Well	Concrete surrounding pipe (10-centimeter-diameter) protruding above concrete well pad
14	RR22	Near displaced wall segment	Dump	Crushed oyster, brick, and concrete waste pile found in storm sewer trench
15	RR23	West of road, north of well	Dump	Construction debris found in sewer line trench

Features 1 and 2 may represent a store front of some sort (Figure 4.3) dating earlier than the 1970s, however, it is unlikely to be a store front because the land was part of the Central State Farm Prison until 1995. Dates inscribed in concrete seemed to confirm an even earlier possible date (Figure 4.4). North of two concrete slabs and sidewalks was an area that could have been a workspace behind the storefront. It was at least 183 meters long and, after soil removal, was found to be covered with black plastic sprinkler parts. The area occupied part of a former landing strip, as seen on the USGS map, and was separated from an all-weather road to the east by a ditch with two round concrete culverts (Figure 1.2). Two magnolia trees were located in the southwest corner of the project area near Features 1 and 2.

Figure 4.3: Feature 2, Concrete Slab with Sidewalk on Right, Facing Northeast

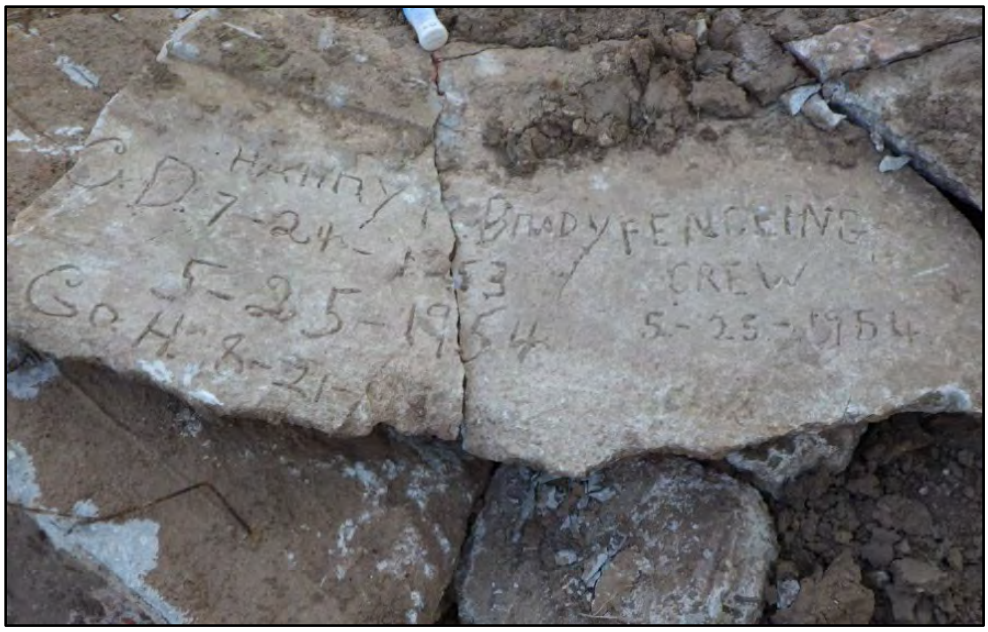
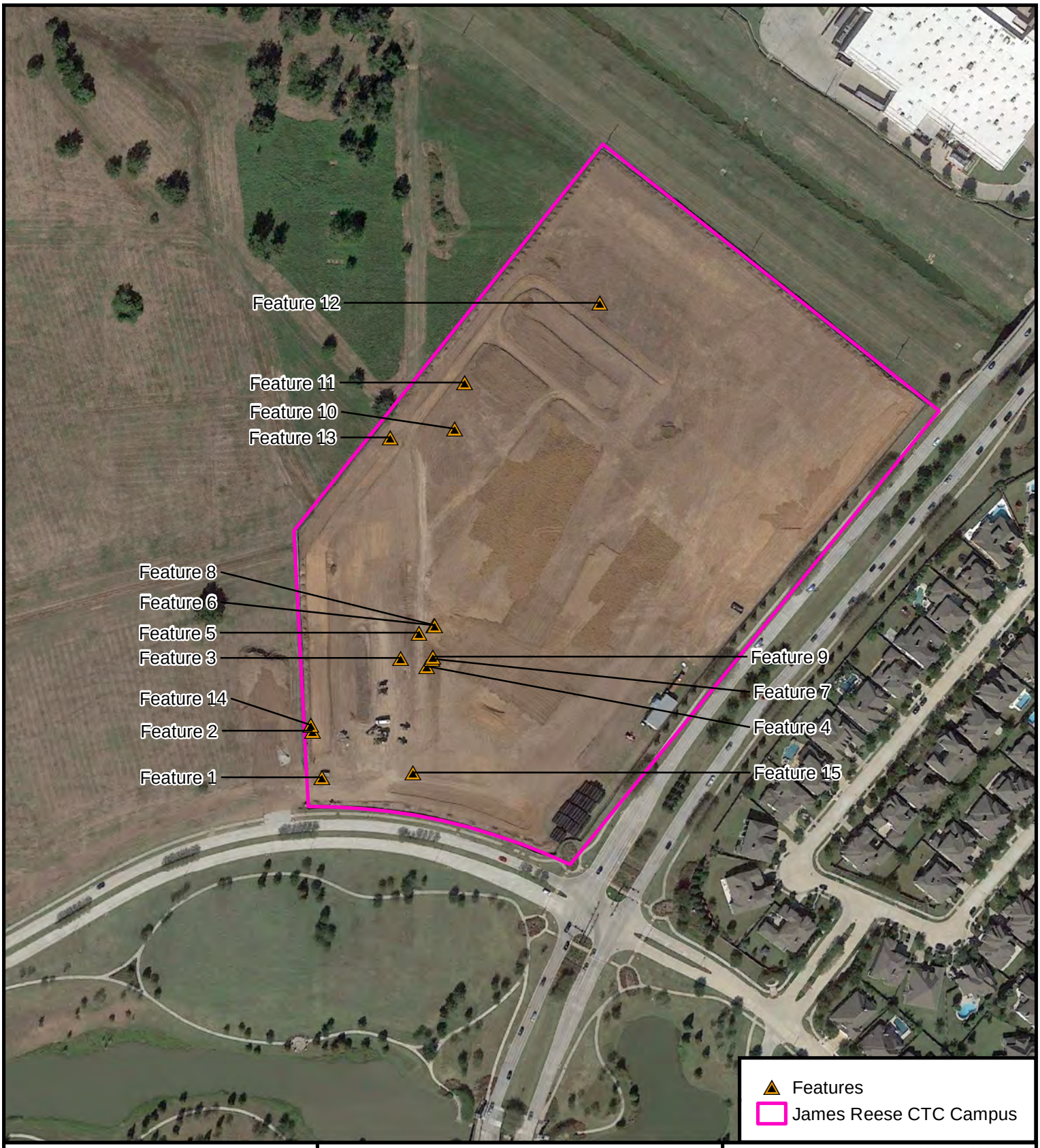


Figure 4.4: Concrete Remains after Bulldozing Feature 1, Date of Construction and Crew



Map Sources: BackGround: USDA, 2017 NAIP Natural Color Imagery for Texas.

0 125 250 Feet

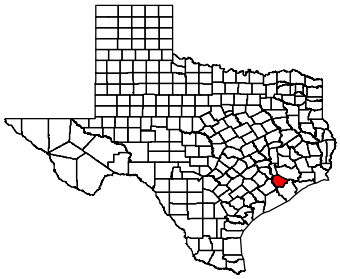
GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 4.2
Features and Scraped Surface
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 27 May 2020

N



A small accumulation of crushed oyster shell (Feature 3) may have functioned to stop edge erosion of the previously mentioned and probably associated culverts and overlying roadways.

A long brick retaining wall (Features 4 through 9) was revealed along the east side of the all-weather road (Figures 4.5 and 4.6). The retaining wall was built of well-mortared, red and yellow bricks of standard size. Some were three-hole bricks, but most had eight holes and no manufacturing marks. In some cases, mortar was mixed with broken bricks. The wall was constructed in a shallow builder's trench and may have been placed to protect the roadway from flooded agricultural or cane fields. The wall could date to the early 1950s but is probably more recent, as evidenced by the condition of the mortar.

Figure 4.5: Feature 7, Segment of Long Brick Retaining Wall with Mortar

Figure 4.6: Feature 8, Long Brick Retaining Wall Segment, Mortar, and Builder's Trench

Features 10 and 11 may have represented mule watering troughs (Figures 4.7 and 4.8). Mules were part of the property transferred from the Imperial Sugar Company to the State of Texas in 1913 and were an instrumental factor in cane production and harvest (Clark and Ralph 2015b: Appendix C, 347). In addition to the 134 work mules, the sale included 76 sections of a portable tram. The interior concrete slab, measuring 2.5 meters in diameter, was surrounded by a brick apron measuring another 1 meter in width. A ¾-inch water line entered below one of the slabs from the south, suggesting a manual or float valve filler. A short length of ¾-inch pipe found nearby had a valve attached to the threaded end. This may have been an emergency shut-off for the trough filling system.

Figure 4.7: Feature 11, Mule Trough with Brick Apron (Facing Northwest), Small Excavation on Left Edge

Figure 4.8: Feature 11, Mule Trough with Brick Apron and (Facing Northwest), Water Pipe below Brick Apron

An equipment shed slab (Figure 4.9) was found in the north-central part of the project area. It measured 9 by 8.7 meters and consisted of a thin pour of concrete overlying a previous pour on a prepared clay and rounded pebble foundation (Feature 12). The slab contained reinforcing bars along with several threaded anchor bolts set in the perimeter beam. Two filled postholes suggested a roofed storage structure modified later to function as an equipment shed. After the slab was dozed, inscriptions on the broken fragments suggested the secondary slab may have been laid around 1954.

Figure 4.9: Feature 12, Equipment Shed, Facing Northeast

A wellhead (Feature 13) was found encased in concrete along the west edge of the project. The 7.6-centimeter-diameter well pipe had been cut off at the top of the exposed aggregate. The well was situated approximately 100 meters west of the mule troughs. There were no associated artifacts or inscriptions in the concrete that would date the feature (Figures 4.10 and 4.11).

Figure 4.10: Feature 13, Well with Concrete Base and 7.6-Centimeter-Diameter Standpipe, Metric Scale in 10-Centimeter Increments

Figure 4.11: Feature 13, Concrete Base for Well; Metric Scale in 10-Centimeter Increments

On 28 November 2017, when topsoil scraping was complete, construction trench monitoring began and continued until 19 January 2018. Over 50 days (548 hours) were spent monitoring excavations during a three-month period. One or more Goshawk personnel were present during each workday. The upper 1 to 2 meters of each trench was closely monitored for cultural resources and trenching often exceeded 3 meters deep into sterile soils. In only one case did artifacts exceed anticipated depths. A total of 11 trench profiles were made along the monitored storm sewer and sanitary sewer trenches. This amount of trenching constituted a little less than 40% of the total trenching (excluding shallow, narrow water lines) specified for the project.

Two additional features were revealed during Goshawk's monitoring of the trenching operation. These were two deposits of construction debris. The first, Feature 14, consisted of machine-made red and yellow brick fragments of standard size. Some mortar residue was found on a few of the fragments. The feature was not present in the top 30.5 centimeters of soil but extended from 30.5 to 91.4 centimeters below ground surface over a distance of approximately 15 meters. A phone cable was identified east of Feature 14, approximately 0.72 meter below the surface. Between the phone cable and the brick feature was a 3-meter lens of crushed oyster shell beginning 30.5 centimeters below the ground surface and extending to a depth of 55.8 centimeters. No diagnostic artifacts were associated with Feature 14. The width of the feature was not determined.

The second deposit of construction debris, Feature 15, was found in an area shown on the older aerial photographs as the abandoned channel of Bullhead Bayou. The feature contained several types of brick, including GROSBECK, FERRIS and PALMER types, as well as unmarked red brick (Figure 4.12). It also contained rounded river pebbles and broken concrete finished with smooth and pebbled surfaces. Some concrete was imbedded with reinforcing bar. Various types of metal including water pipe, sheet lead, flat stock, a cast iron sewer pipe junction with lead in the coupling, a cast iron sewer pipe lid, smooth wire, and an eyed spike were found in the trench profile and backdirt. One piece of window glass and a 1.5-meter length of railroad tie were also noted. When first excavated, the strong odor of decay indicated the deposit may have been recently buried.

Feature 15 was first noted in the sidewall of the sewer line trench at a depth of about 35 centimeters. The rubble or construction debris deposit continued to the bottom of the trench some 4 meters below the ground surface. Following the trench lines, the deposit covered an area extending over 33 meters north–south by over 20 meters east–west or more. The true size of Feature 15 remains unknown.

The lack of hardware (nails, bolts, glass, etc.) and household debris indicated the refuse originated as base elements from sheds and barns. This can be said for most of the debris found in trench profiles. The function of Feature 15 seemed to be nothing more than a convenient location to dump construction debris while filling in a low-lying swamp area in, or adjacent to, Bullhead Bayou.

Figure 4.12: Feature 15, Historic Debris Extending Below the Trench Bottom, Facing West

During monitoring, selected trench walls were cleaned and the stratigraphy was interpreted by the archeologist at the trench face (Appendix A). Profile and artifact data (if present) were recorded on designated forms. Selected artifact photographs are presented in Appendix B. Profiles drawn and/or photographed are presented in Appendix C. Trench profiles are listed in Table 4.2 along with basic descriptions. Trench monitoring, coupled with ground surface inspection and backdirt screening, yielded no human bone and provided no significant information concerning possible habitation within or north of the project area.

Table 4.2: Profile Log from Trench Monitoring

Profile	Waypoint	Provenience	Description
1	RR14	Southwest corner, 200 centimeters deep	Profile KF-1 West Fence Profile Showing Disturbed Stratigraphy Below Removed Soils, 28 Nov 2017, no photographs
2	RR15	Southwest corner, 470 centimeters deep	Profile RR-1, southwest end of 5" storm sewer line on Chatham Lane. 28 Nov 2017, photographs 1475 -1477
3	RR16	West side of road at culvert in southwest corner of project. Note overburden has been stripped	Profile KF-2, 1 Dec 2017, photos 1483-1484
4	RR17	East side of road between concrete culverts	Profile KF-3, photos 1505-1507, 12 Dec
5	RR18	South side of ditch	Profile KF-4, photos 1508-1510

Profile	Waypoint	Provenience	Description
6	RR19	East side of road between culverts	Profile KF-5, photos 1511-1512, 13 Dec
7	RR20	South end of wall	Profile KF-6, photos 1513-1514
8	RR21	Middle wall, 450 centimeters deep	Profile RR-2, photos 1515-1517, 13 Dec 2017, located on west edge after placing pipe and covering with concrete soil
9	RR25	Northeast quadrant, lateral storm water drain	Profile KF-7 photos, 1543-1545, 9 January 2018

The Scope of Work was modified after consultation with the THC on January 2018 to include the excavation of 20 pits. These small excavations were deemed necessary to complete the investigation in areas not scheduled for trenching. On 18 January 2018, the pits were excavated using a tracked excavator. Pit excavation was confined to areas in the northeast and southeast quadrants of the JRCTC, away from the main structure. Profiles were not drawn, but photographs were taken of all 20 pits. Pit locations were recorded on a hand-held GPS unit. Pits averaged a little over 1 meter deep and extended below the disturbed upper zones to the lower argillic clays (Houston Black clay).

The hand-sorted matrix did not reveal the presence of artifacts or bone. The resulting data (discussion, locations, and photographs) are presented in Appendix C. Monitoring pit excavations, coupled with ground surface and backdirt screening, yielded negative results for the presence of significant cultural resources.

4.6 Diagnostic Artifacts

Temporally diagnostic artifacts were collected as displaced isolates because exact provenience was unknown due to the nature of the machine trenching excavations. It was noted that pre-20th century artifacts were rare to non-existent, i.e., there was no solarized glass and few cut nails in the surface assemblage. Noteworthy artifacts are presented below.

4.6.1 Brick

A variety of brick types were found during the monitoring effort. The Ferris Brick Plant, which lies in northeast Ellis County near the Dallas County line, was once regarded as the principal brick manufacturing center of the state. Located on the main line of the H&TC Railroad, Ferris possessed superior transportation services that connected it to the larger markets of the state. One of the first brick manufacturing operations was begun by T. J. Hurst of Dallas, who established the Ferris Pressed Brick Company in 1895. The company's success led others to the area. According to the *Texas State Gazetteer*, six brick plants operated in Ferris by 1914, including Atlas Press Brick Works (1895-1918), Diamond Press Brick Company (1910-1923), Ferris Press Brick Company (1901-1923), Globe Press Brick Company (1904-1923), Lone Star Press Brick Company (1905-1923), and Texas Press Brick Company (1909-1926). One Ferris-marked brick (Figure 4.13) and one Atlas-marked brick (Figure 4.14) were found during the monitoring effort). Other manufactures of brick, including Groesbeck (Figure 4.15), Standard (Figure 4.16), and Palmer (Figure 4.17) were also found during the monitoring effort.

Figure 4.13: Brick, Ferris

Figure 4.14: Brick, Atlas

Figure 4.15: Brick, Groesbeck

Figure 4.16: Brick, Standard

Figure 4.17: Brick, Palmer

4.6.2 Moveable Track Segment

When the State of Texas sold project area lands to private concerns in 1907, the deed of trust mentioned 75 sections of moveable tram track (State of Texas 1913) and 80 mule-drawn tram cars. Some of this moveable track was found during the monitoring effort (Figures 4.18 and 4.19). Mule-drawn railcars were instrumental in moving cut cane on tram roads from the field to the mill. Sections of rail could have been moved by mule or man to reconfigure the line as harvesting progressed through the fields.

Figure 4.18: Portable Tram Road Rail

Figure 4.19: Tram Road Rail, Note Embossed Numbers

4.6.3 Surface-Mount Electrical Insulators

This multi-piece dry process porcelain insulator was in common uses during the early days of residential electrification as existing homes were retrofitted for electricity. It was made by the Illinois Electrical Porcelain Company in Macomb, Illinois (Figure 4.20). The company began manufacturing this cleat insulator in 1910 and continued through 1953.

Figure 4.20: Macomb Cleat Insulator

Another type of insulator was used to retrofit pre-electric homes, offices, and farm buildings after electricity came to Sugar Land in 1900. The bridle ring insulator was used mainly for telephone drops leading into the home or office (Figures 4.21 and 4.22).

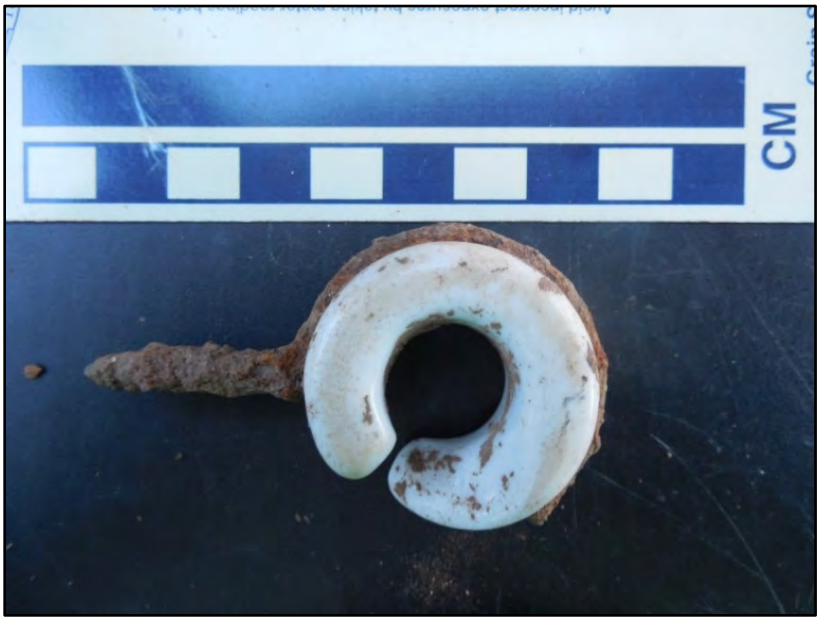


Figure 4.21: Bridle Ring Insulator for Telephone Drop

Figure 4.22: Bridle Ring Insulator for Telephone Drop

Standard split-knob insulators were used in early electrical wiring in homes as well as electric fences. Standard split-knob insulators were glazed, radially ribbed caps with captivated nails. Elton Gish's website (Gish 2018) shows an image of one listed as his type R-93 with an embossed BULLDOG

like the one found during the monitoring effort (Figures 4.23 and 4.24). This was made by the Illinois Electric Porcelain Company using dry-process porcelain. This would date the artifact between 1910 to about 1919.

Figure 4.23: Bulldog Insulator

Figure 4.24: Bulldog Insulator, Illinois Electric Porcelain Co. of Dry-process Porcelain Dating Between 1910 to 1919

4.6.4 Glover Mange Medicine Bottle

Henry Clay Glover made veterinary medicines for treating mange in dogs and horses. His company was based in New York City and was the most popular of the veterinary medicine producers. Dr. Glover's Mange Medicine and Distemper Remedy were the two most popular medicines produced by his company. Less is known about his Imperial Medicine.

Dr. Glover started practicing veterinary medicine before 1877 and served for many years as the veterinarian to the Westminster Kennel Club. By 1888, he received the medal of superiority from the American Institute of New York for his canine medicines. As seen in the various surviving embossed bottles, the name of the medicine contained within the bottles changed over time (Glover's "Mange Medicine", "...Imperial Mange Remedy", and "...Imperial Mange Medicine").

One mange medicine bottle was found during the monitoring effort (Figure 4.25). Embossed on the face of the bottle are the words "Glover's Imperial Medicine" and near the neck of the bottle "6-1/2 FL. OZ." On one side it says, "H. Clay Glover Co." while the other says, "New York." The bottom of the bottle has the symbol for the glass bottle manufacture and the number 29. The manufacture (Whitall Tatum Company) was in business from 1901 to 1938 in Milleville, New Jersey (Glass Bottle Marks 2020; Federation of Historical Bottle Collectors 2020). The symbol (embossed inverted triangle with W T inside) was used after 1924. It was sold in 1938 and became Armstrong Cork Corporation. During its life, the company made bottles for medicines, remedies, cleaning products, chemicals, cosmetics, and lotions. This symbol is the best clue for estimating the bottle's age (between 1924 and 1938).

Figure 4.25: Grover's Imperial Mange Remedy Panel Bottle (1924–1938)

4.7 MONITORING RESULTS

Goshawk conducted cultural resources monitoring of topsoil scraping, trenching, and pit excavation operations within the proposed JRCTC in Sugar Land, Fort Bend County, Texas, at the request of the FBISD. The APE consisted of the total construction zone for the JRCTC and a 23-meter-wide right-of-way (ROW). The ROW consisted of a 15-meter-wide permanent storm drain easement and an 8-meter-wide temporary construction easement. Additionally, 20 single set trenches were excavated to investigate areas not subjected to construction trenching.

During the monitoring of topsoil scraping, trenching, and pit excavation operations, several features were encountered, and hundreds of historic artifacts were observed. None of the features or artifacts could be associated with any particular occupation of the project area and none were considered significant cultural resources.

No bone material was present in the observed project area, and none was anticipated during future JRCTC construction. Finding human bone during later construction trenching changed the scope and initial findings of the project and again, a change in scope was required to accommodate the new data. For additional photography pertaining to the monitoring effort, see Appendix E.

4.8 Discovery of Human Remains and Response

Goshawk responded to a call from Bryan Ray of Jacobs Engineering Group on the afternoon of 19 February 2018 about possible human bone having been uncovered at the JRCTC construction site. The bones were reported by backhoe operator Daniel Diaz as he was excavating a shallow trench for a storm sewer discharge pipe. Construction was halted in the immediate area of the backfilled trench to await determination of significance for the emergency discovery.

Reign Clark and Ron Ralph responded by visiting the JRCTC on the morning of 20 February 2018. After inspection, the three long bone medial fragments discovered the previous day appeared to be of human origin. Goshawk personnel met with Sugar Land Police and Inspector Martinez of the FBISD Police Department. Martinez collected the bone material for further analysis by a forensic specialist. During the field visit on February 20th, a prehistoric ceramic sherd and freshwater mussel shells were found in close context with the bones (Figure 4.26). These materials seemed to indicate the bones could be associated with a burial or an occupation site of prehistoric age.

Figure 4.26: Ceramic Sherd and Freshwater Oyster Shells Thought to be Associated with Burial

Goshawk staff met with Bill Martin (Archeological Reviewer) and Pat Mercado-Allinger (Division Director and State Archeologist) of the THC on 22 February 2018 to discuss ramifications of the accidental discovery of possible human remains and potentially associated prehistoric materials. At the time of this meeting, the bone recovered from the JRCTC was not yet verified as human. The THC meeting resulted in a preliminary plan to proceed with excavations to identify the source of diagnostic artifacts and additional bone material at a supposed prehistoric site.

Initially, the bone material was taken to the Galveston County Medical Examiner's office. The examiner's office was 99% certain the bone was not of human origin. Oscar Perez, Chief Operations Officer for FBISD, wanted to be 100% certain that the remains were not of human origin prior to proceeding with construction. As such, the bone material was taken to the Forensic Anthropologist, Dr. Joan Bytheway, of Sam Houston State University on 23 February 2018. On 26 February 2018, Goshawk received an email from Inspector Martinez with an attachment detailing the results of the assessment made by Forensic Anthropologist Dr. Joan Bytheway of Sam Houston State University, Huntsville. The bones were identified as human with no indication of age offered. The bones were assessed as being from at least two human adults, most likely associated with prehistoric interments. Following Dr. Bytheway's revelation, Goshawk consulted with Bill Martin regarding specific regulations pertaining to identification of Native American burials on State-owned lands and appropriate methodologies for excavation, removal, and relocation/repatriation of those interments. As a result of this discussion, a revised Scope of Work was devised.

Table 4.3: Single Set Trench Data (Zone15, NAD 1983)

Profile # or Feature #	Level (cm)	Color	Texture	Structure	Consistency	Boundary	Comments
Profile 1; (KF-west 1)	Level 1 0 to 80	Light brown with black mottles	Sand	Granular, medium sized	Friable	Wavy	LOCATION: Waypoint 14 15 UTM 824495E; 3279722N
	Level 2 80 to 200	Black	Clay	Platy, fine	Very dense	Wavy	Clay pipe and marine shell with some roots in upper level.
Profile 2 (RR-1)	Level 1 0 to 400	7.5YR6/6	Clay loam	Blocky	Friable	Smooth	LOCATION: Waypoint 15 15 UTM 824315E; 3279510N
	Level 2 400 to 490	10YR2/1 Black	Clay	Blocky, argillic	Very dense	Smooth	Paver and fine white sand inclusion in top level
	Level 3 490 to 570	10YR4/3 and 5YR4/3	Clay	Blocky	Dense	Smooth	Westernmost end of storm sewer at connection with City at lake
Profile 3; (KF-2)	Level 1 0 to 20	Brown	Clay loam	Blocky	Friable	Smooth	LOCATON: Waypoint 16 15 UTM 824311E; 3279502N
	Level 2 20 to 70	Light brown	Clay loam	Blocky, argillic	Dense	Wavy	Compact soils with artifacts and stone in first levels
	Level 3 70 to 180	Black	Clay	Platy	Very dense	Wavy	Houston gumbo
	Level 4 180 to 300	Reddish brown	Fine sand	Granular	Friable	N/A	Collapsing walls

Profile # or Feature #	Level (cm)	Color	Texture	Structure	Consistency	Boundary	Comments
Profile 3; (KF-3)	Level 1 0 to 80	Brown	Clay loam	Platy, granular	Hard	Smooth	LOCATION: Waypoint 17 15 UTM 824693E; 3279943N
	Level 2 80 to 140	Black	Clay	Homogeneous	Dense	N/A	Clay pipe and glass in top level
Profile 4; (KF-4)	Level 1 0 to 10	Very dark gray	Clay	Platy	Hard	Smooth	LOCATION: Waypoint 18 15 UTM 82713E:3279932N
	Level 2 10 to 70	Light brown	Clay loam	Granular	Hard	Smooth	Surface previously bulldozed, "A" horizon gone
	Level 3 70 to 140	Brown	Clay	Platy	Hard	N/A	
Profile 5; (KF-5)	Level 1 0 to 40	Brown	Clay loam	Platy	Friable, moist	Smooth, abrupt	LOCATION: Waypoint 19 15 UTM 824621E:3279893N
	Level 2 40 to 120	Black	Clay	Platy	Hard	Undulating	
	Level 3 120 to 200	Light brown	Sand	Coarse, granular	Friable	N/A	Gradual bleed at boundary marker
Profile 6; (KF-6)	Level 1 0 to 40	Brown	Clay loam	Platy, medium	Friable	Smooth, abrupt	LOCATION: Waypoint 20 15 UTM 824634E:3279890N
	Level 2 40 to 120	Black	Clay	Platy, fine	Hard	Wavy	
	Level 3 120 to 200	Light brown	Sand	Granular, coarse		N/A	Gradual bleed at boundary marker
Profile 7; (RR-2)	Level 1 0 to 35	Gray	Sandy loam	Loose, organic	Friable	Wavy	LOCATION: Waypoint 21 15 UTM 824500E:3279631N
	Level 2 35 to 70	Reddish brown	Clay loam	Platy	Dense		Artifacts and stone in the upper level. Intrusive pits found
	Level 3 70 to 175	Black	Clay	Platy			
	Level 4 175 to 420	Light brown	Fine sand	Friable			Trench walls collapsing
	Level 5 420 to 450	Black	Clay	Not argillic	Indurated	N/A	
Profile 8; (KF-7)	Level 1 0 to 20	Red	Sandy clay loam	Granular, medium	Friable	Wavy	LOCATION: Waypoint 25 15 UTM 824708E:3279786N
	Level 2 20 to 110	Black	Clay	Platy	Dense, plastic	N/A	Topsoil previously removed by dozer
Pit Profile 1; (P26)	Level 1 0 to 70	Brown	Clay loam	Platy	Dense	Smooth	LOCATION: Waypoint 26 15 UTM 8245312E:3279588N
Photographs 1545 - 1547	Level 2 70 to 105	Black	Clay	Blocky	Indurated	N/A	Top level churned by construction. South wall profile
Pit Profile 2; (P27)	Level 1 0 to 30	Gray	Clay loam	Disturbed	Plastic	Abrupt	LOCATION: Waypoint 27 15 UTM 824544E:3279593N
Photographs 1548-1549	Level 2 30 to 100	Brown	Clay	Platy	Indurated	N/A	Construction churned surface. South wall profile
	Level 3 100 to 130	Black	Clay	Blocky			

Profile # or Feature #	Level (cm)	Color	Texture	Structure	Consistency	Boundary	Comments
Pit Profile 3; (P28)	Level 1 0 to 50	Mixed soil colors	Clay loam	Disturbed by construction	Plastic	Smooth	LOCATION: Waypoint 28 15 UTM 824568E:3279588N
Photographs 1550-1551	Level 2 50 to 100	Very dark gray	Clay	Platy	Indurated	Smooth	South wall profile
	Level 3 100 to 130	Black	Clay	Blocky	Dense, plastic	N/A	
Pit Profile 4; (P29)	Level 1 0 to 20	Light gray	Mixed, disturbed	Disturbed by construction	Churned	Wavy	LOCATION: Waypoint 29 15 UTM 824594E; 3279585N
Photographs 1552-1553	Level 2 20 to 70	Dark brown	Clay loam	Blocky	Dense, plastic	Smooth	South wall profile
	Level 3 70 to 120	Black	Clay	Plastic	Indurated	N/A	
Pit Profile 5; (P30)	Level 1 0 to 45	Reddish brown	Loamy clay	Homogeneous	Friable, damp	Wavy	LOCATION: Waypoint 30 15 UTM 824627E: 3279594N
Photographs 1554-1555	Level 2 45 to 130	Dark gray	Clay	Blocky, argillic	Friable	Smooth	South wall profile
	Level 3 130 to 145	Black	Clay	Homogeneous	Indurated, rock hard	N/A	
Pit Profile 6; (P31)	Level 1 0 to 20	Light brown	Loamy clay	Disturbed	Churned	Wavy	LOCATION: Waypoint 31 15 UTM 824647E: 3279613N
Photographs 1556-1557	Level 2 20 to 200	Gray	Clay	Plastic	Dense, plastic	N/A	South wall profile. Dozer removed upper soils
Pit Profile 7; (P32)	Level 1 0 to 40	Light brown	Clay loam	Mixed	Dozer destroyed zone	Unknown	LOCATION: Waypoint 32 15 UTM 824679E: 3279644N
Photographs 1558-1559	Level 2 40 to 150	Dark gray	Loamy clay	Homogeneous	Dense	Smooth	East wall profile
	Level 3 150 to 160	Black	Clay	Blocky	Dense, plastic	N/A	
Pit Profile 8; (P33)	Level 1 0 to 40	Light brown	Clay loam	Mixed	Dozer churned	Unknown	LOCATION: Waypoint 33 15 UTM 824728E: 3279707N
Photographs 1560-1561	Level 2 40 to 150	Dark gray	Loamy clay	Platy	Dense	Smooth	East wall profile
	Level 3 150 to 160	Black	Clay	Blocky	Dense, plastic	N/A	
Pit Profile 9; (P34)	Level 1 0 to 20	Brown	Sandy clay loam	Mixed	Dozer churned	Wavy	LOCATION: Waypoint 34 15 UTM 824784E: 3279772N
Photographs 1562-1563	Level 2 20 to 60	Dark gray	Clay loam	Platy	Dense	Smooth	East wall profile
	Level 3 60 to 120	Light brown	Sandy clay	Granular, coarse	Somewhat friable	Smooth	
	Level 4 120 to 130	Very dark gray	Clay	Blocky	Dense, plastic	N/A	
Pit Profile 10; (P35)	Level 1 0 to 20	Brown	Sandy clay loam	Mixed	Dozer churned	Wavy	LOCATION: Waypoint 35 15 UTM 824803E: 3279788N
Photographs 1564-1565	Level 2 20 to 60	Dark gray	Clay loam	Platy	Dense	Smooth	East wall profile

Profile # or Feature #	Level (cm)	Color	Texture	Structure	Consistency	Boundary	Comments
	Level 4 120 to 130	Very dark gray	Clay	Blocky	Dense, plastic	N/A	
Pit Profile 11; (P36)	Level 1 0 to 20	Brown	Sandy clay loam	Granular, coarse	Dozer churned	Wavy	LOCATION: Waypoint 36 15 UTM 824818E: 3279810N
Photographs 1566-1567	Level 2 20 to 110	Light gray	Clay loam	Platy	Friable	Smooth	East wall profile. Roots in upper part of level 2
	Level 4 110 to 120	Black	Clay	Blocky	Dense, plastic	N/A	
Pit Profile 12; (P37)	Level 1 0 to 20	Reddish brown	Sandy clay loam	Mixed	Dozer churned	Wavy	LOCATION: Waypoint 37 15 UTM 824834E: 3279830N
Photographs 1568-1569	Level 2 20 to 70	Light gray	Clay loam	Platy	Dense	Smooth	East wall profile
	Level 3 70 to 120	Reddish brown	Sandy clay	Granular, coarse	Somewhat friable	Smooth	
	Level 4 120 to 130	Black	Clay	Blocky	Dense, plastic	N/A	
Pit Profile 13; (P38)	Level 1 0 to 20	Reddish brown	Sandy clay loam	Mixed	Dozer churned	Wavy	LOCATION: Waypoint 38 15 UTM 824820E: 3279841N
Photographs 1571-1572	Level 2 20 to 50	Light gray	Clay loam	Platy	Dense	Smooth	East wall profile. Upper fill from road and bridge construction.
	Level 3 50 to 130	Reddish brown	Sandy clay	Granular, coarse	Somewhat friable	Smooth	
	Level 4 130 to 135	Black	Clay	Blocky	Dense, plastic	N/A	
Pit Profile 14; (P39)	Level 1 0 to 20	Reddish brown	Sandy clay loam	Mixed	Dozer churned	Wavy	LOCATION: Waypoint 39 15 UTM 824808E: 3279816N
Photographs 1573-1574	Level 2 20 to 60	Light gray	Clay loam	Granular	Dense	Smooth	West wall profile. Upper fill from road and bridge construction.
	Level 3 60 to 110	Reddish brown	Sandy clay	Granular, coarse	Somewhat friable	Smooth	
	Level 4 110 to 120	Black	Clay	Blocky	Dense, plastic	N/A	
Pit Profile 15; (P40)	Level 1 0 to 10	Reddish brown	Sandy clay loam	Mixed	Dozer churned fill	Wavy	LOCATION: Waypoint 40 15 UTM 824789E: 3279788N
Photographs 1575-1576	Level 2 10 to 70	Light gray	Clay loam	Granular	Dense	Wavy	West wall profile
	Level 3 70 to 130	Brown	Sandy clay	Granular, coarse	Somewhat friable	Smooth	
	Level 4 130 to 140	Black	Clay	Blocky	Dense, plastic	N/A	
Pit Profile 16; (P41)	Level 1 0 to 10	Gray	Sandy clay loam	Mixed	Dozer churned fill	Unknown	LOCATION: Waypoint 41 15 UTM 824780E: 3279778N
Photographs 1577-1578	Level 2 10 to 70	Reddish brown	Sandy loam	Granular	Loose	Wavy	West wall profile
	Level 3 60 to 120	Brown	Clay loam	Fine	Somewhat friable	Smooth	
	Level 4 120 to 130	Black	Clay	Blocky	Dense, plastic	N/A	

Profile # or Feature #	Level (cm)	Color	Texture	Structure	Consistency	Boundary	Comments
Pit Profile 17; (P42)	Level 1 0 to 30	Gray	Sandy clay loam	Granular, organic	Loamy topsoil, friable	Wavy	LOCATION: Waypoint 42 15 UTM 824644E: 3279582N
Photographs 1579-1580	Level 2 30 to 80	Light gray	Sandy loam	Fine grain	Compact, not friable	Smooth	East wall profile, SE corner of project area
	Level 3 80 to 102	Brown	Clay	Fine grain	Dense, plastic	N/A	Black clay just appearing at base of pit
Pit Profile 18; (P43)	Level 1 0 to 15	Light brown	Sandy clay loam	Granular, organic	Loamy topsoil, friable	Wavy	LOCATION: Waypoint 43 15 UTM 824666E: 3279601N
Photographs 1581-1582	Level 2 15 to 25	Reddish brown	Sandy loam	Granular	Somewhat friable	Smooth	East wall profile
	Level 3 25 to 70	Brown	Clay loam	Fine	Plastic	Smooth	
	Level 4 70 to 120	Black	Clay	Blocky	Dense, plastic	N/A	
Pit Profile 19; (P44)	Level 1 0 to 20	Mottled	Clay and mixed soil	Mixed	Dozer churned	Wavy	LOCATION: Waypoint 44 15 UTM 824673E: 3279659N
Photographs 1583-1584	Level 2 20 to 40	Reddish brown	Sandy loam	Granular	Somewhat friable	Smooth	West wall profile
	Level 3 40 to 120	Brown	Clay loam	Blocky	Dense, plastic	Smooth	
	Level 4 120 to 140	Black	Clay	Fine	Plastic	N/A	
Pit Profile 20; (P45)	Level 1 0 to 20	Mottled	Clay and mixed soil	Mixed	Dozer churned	Wavy	LOCATION: Waypoint 45 15 UTM 824698E: 3279691N
Photographs 1585-1586	Level 2 20 to 50	Brown	Clay loam	Fine	Not friable	Smooth	West wall profile
	Level 3 50 to 60	Reddish brown	Fine sand	Fine grain	Dense	Smooth	
	Level 4 60-120	Black	Clay	Blocky	Plastic	Smooth	
	Level 5 120 to 130	Dark gray	Clay	Fine	Plastic	N/A	

5.0 PHASE TWO: TEST EXCAVATION AND DISCOVERY

A new Scope of Work was submitted by Goshawk to the THC for test excavation under TAC Permit #8197. This modified Scope of Work, considered an expansion of the existing TAC permit, covered consultation with the THC, cleanup and screening of disturbed soils, removal of a 38-centimeter-diameter corrugated plastic storm sewer pipe and non-native fill from the bone and ceramic discovery area, hand excavation of up to 4 cubic meters of soil to define the probable burial, consultation assistance with pertinent tribes, burial documentation, and preparation of a report of investigations for submission to the THC.

5.1 METHODOLOGY

Goshawk proposed to conduct excavations in the vicinity of the accidental discovery to identify intact prehistoric interment(s) for eventual removal and relocation/repatriation. The accidental discovery of human bone was made during backfill of a trench excavated for a storm sewer pipe; therefore, any bone and artifacts associated with a burial would have been displaced and mixed with surface and trench backfill soil.

Although it was difficult to estimate the volume of material required to expose the grave, it was anticipated that hand excavation of four cubic meters should suffice during this exploratory phase. A grid would be laid along the trench and an elevation point would be established. When the burial(s) was exposed and the nature of the deposit was better understood, hand excavation would halt. If the burial were found to be Native American, consultation with the pertinent tribes would be initiated to determine if any tribe would claim the burial. Bone and objects recovered from displaced soils were to be collected so they might be reunited with the burial. Excavation notes, photographs, sketches, and maps would be accomplished, as warranted, during soil removal and burial delineation.

5.2 BACKDIRT PROCESSING, BLOCK EXCAVATION, AND BURIAL 1

Goshawk began test excavations on 12 March 2018. Once the corrugated plastic pipe and cement/sand bedding mixture was removed with a tracked mini excavator, the sidewalls and floor of the trench were hand-cleaned and thoroughly inspected for bone, artifacts, and soil staining. The bone and artifact-laden clayey backfill from the trench and the surrounding area was removed and water-screened (Figure 5.1). Recovered artifacts included a shoe sole, cut nails, plastic buttons, human bone (including a portion of the right mandible with an incisor, a canine, and three molars), and several long bone fragments. Portions of the trench flagged as a possible source of bone and artifacts were sketched and photographed.

On 15 March 2018, human bone was found in the trench sidewall (Figure 5.2) and a trinomial site number, (formal designator 41FB355) was secured from the Texas Archeological Research Laboratory (TARL) in Austin. Eleven 1-by-1-meter units (Figure 5.3) were laid out along the previously excavated storm sewer trench and labeled Units A through K. Control was maintained using a transit set on an arbitrary datum using an arbitrary grid elevation of 100.00 meters.

Figure 5.1: Water Screening of Excavation Spoil and Trench Infill Materials

Figure 5.2: Human Bone Identified in Sidewalls of Trench

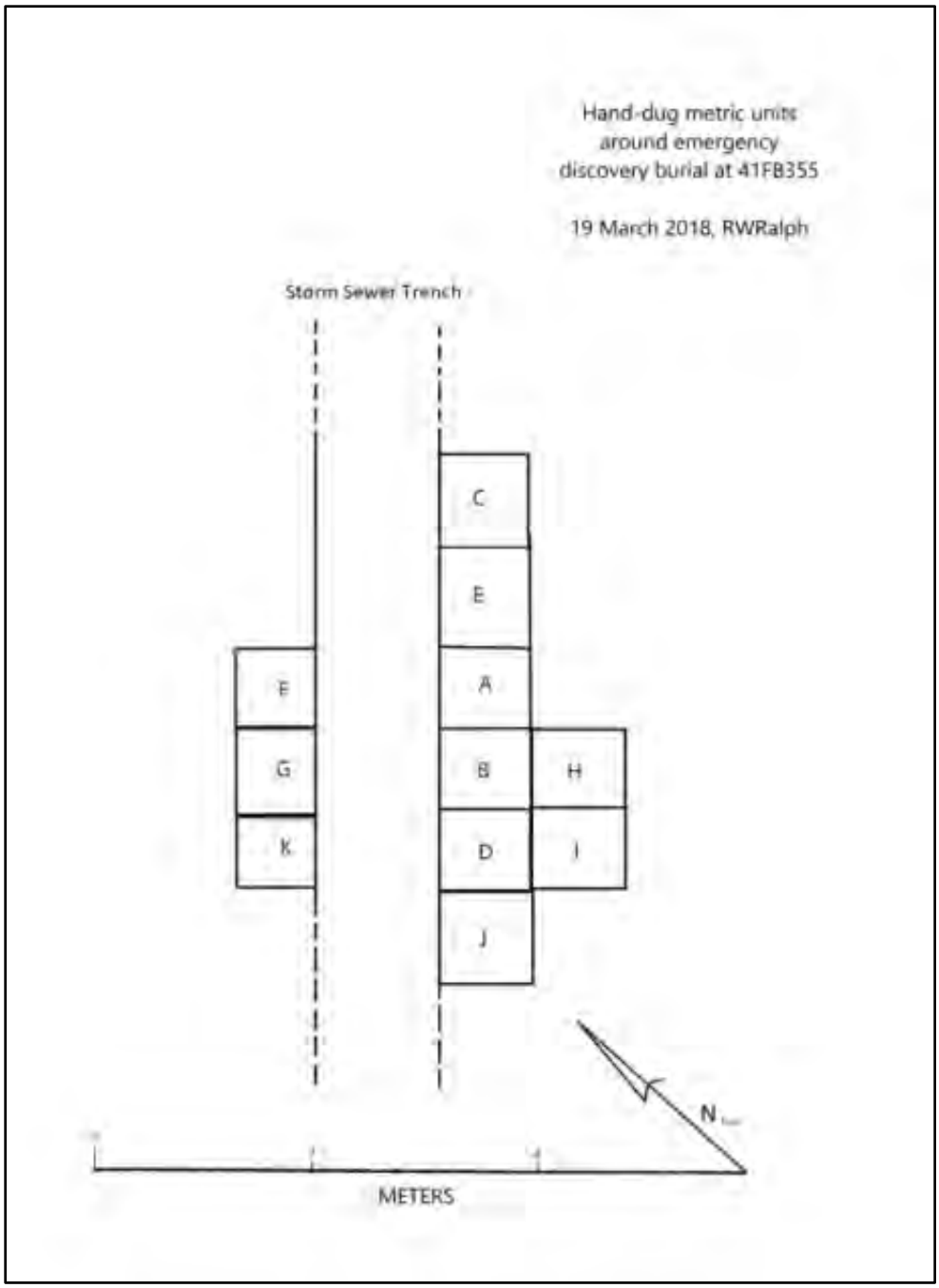


Figure 5.3: Grid Placed on Storm Sewer Trench

Excavation proceeded in 10-centimeter levels through reddish-brown soils until the lower sterile black subsoil was completely exposed (Figure 5.4). Each level was recorded and if appropriate, sketch maps and photographs were made. When completed, detailed wall profiles were made showing artifacts, soil breaks, and disturbed areas. Diagnostic artifacts (cut nail) were collected and other artifacts from the overburden were enumerated then discarded.

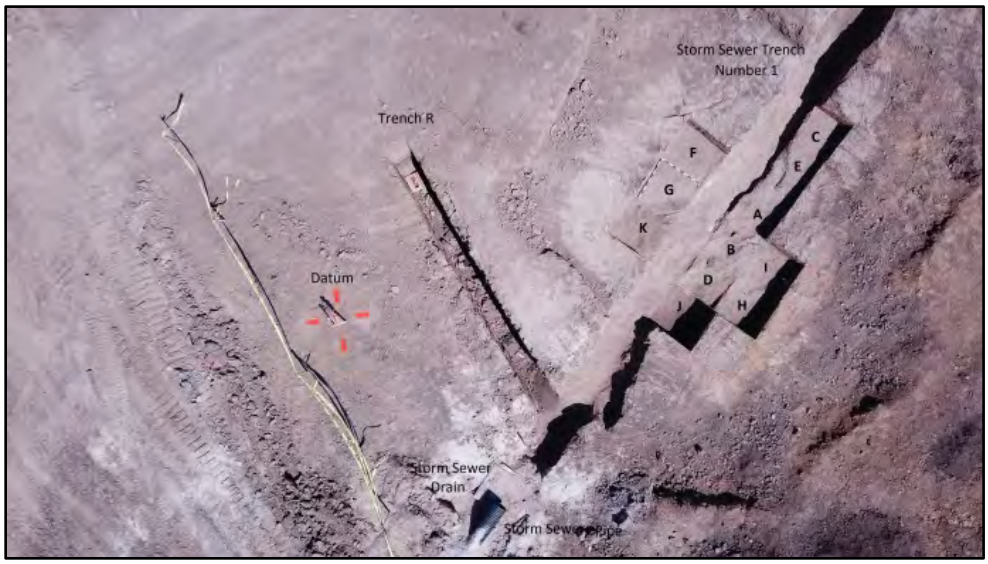


Figure 5.4: Aerial View of Burial 1 Excavation with Labels for Units and Other Features

After drawing a trench wall profile, the top 40 centimeters of imported select fill overburden were stripped from the northwest side of the trench. After stripping overburden, a trench (labeled R in Figure 5.4) was cut using a mini excavator to investigate the stratigraphy away from the burial and further expose the upper artifact-rich red soils. The trench was placed southwest of Burial 1, beginning at the storm sewer trench and running north-northwest. It was excavated to a depth of 190 centimeters with an overall length of 700 centimeters. The trench was too narrow to enter (OSHA rules) but gave a good indication of depth to the break between upper and lower soil stratigraphy.

One interment was found within four of the units (Units A, B, G and K), including upper torso ribs, an articulated right arm and hand, and skull fragments, as well as the complete articulated lower torso, long bones, and foot bones. These represented the in situ remains of one human burial that had been cut across the middle by previous excavation of the storm sewer trench. Excavation by hand continued until the surrounding units were completed (Figure 5.5) and the underlying sterile strata was encountered. The exposed bone was covered in plastic for protection from the elements.

Figure 5.5: Closer Aerial View of Burial 1 Exploratory Excavation

After Burial 1 was totally exposed, bioarchaeologist Dr. Catrina Whitley arrived to review the excavation on March 21. The articulated bone and associated artifacts were evaluated by Dr. Whitley. Later in the day, the artifacts and collected bone from backdirt screening were laid out and inspected. Dr. Whitley separated the human bone from animal bone and made her observations. She noted the teeth appeared historic and wear patterns suggested use of the teeth as a tool. Only one individual was represented in the burial location and among the remains collected from the backdirt pile. The burial was extended in a dorsal position facing east, a Christian practice. Two cut nails in situ suggested the presence of a coffin. She also noted that the burial was cut across the middle diagonally by the storm sewer trench.

After study of the materials recovered from the backdirt pile, Dr. Whitley returned to the site to photograph Burial 1. She measured all bones in place and cautioned us to retrieve all artifacts including coffin wood, nails, and personal belongings. After exposing the burial, it was covered with black plastic and soil, then partly backfilled for the purposes of stabilization and protection until exhumation could be conducted and final disposition determined. No portion of the burial would be further displaced or removed from the site until permission was granted by the tribal claimant, next of kin, the THC, and/or chief regulatory agency or authority. Although Burial 1 might have represented an isolated grave, there remained the possibility of a family burial plot or even larger cemetery.

5.3 Expanded Testing Through Mechanical Scraping

To locate additional burials (if present), Goshawk proposed to utilize an excavator to scrape within a 10-meter radius of the first identified burial to identify burial shafts or other identifying characteristics. In the event that other burials were found, hand excavation would again commence until the top of each burial was reached and the nature of each burial was better understood. At that point, hand excavation of the burial would halt, the individual burial would be covered in plastic (held in place with sandbags), a numerical designator would be assigned, and the location would be mapped.

Plastic would protect the exposed burial from erosion and preserve the moisture content. Machine scraping would continue radiating out from each burial discovered.

5.4 Cemetery Boundaries Defined

In an effort to identify all graves at site 41FB355, overburden stripping was initiated on 28 March 2018 (Figure 5.6). The modified Scope of Work stated a 10-meter radius would be scraped from any interment. This distance proved inadequate when one interment was found 10 meters from another. The search radius was immediately increased to 15 meters. This radius was appropriate for finding burial outliers and establishing the western boundary of the cemetery, and a 15-meter search radius was used for the remainder of the project.

Figure 5.6: Excavator Scraping Used to Locate Grave Shafts, Facing East

Prior to petitioning the district court for an Order of Exhumation, 94 probable grave shafts and burials had been identified, two additional features (Features 16 and 17) had been uncovered within the cemetery, and the cemetery boundaries had been determined with high confidence (Figure 5.7). The 15-meter buffer had been established along the west, north, and east cemetery boundaries. The old channel of Bullhead Bayou was thought to determine the southern boundary of the cemetery as the southernmost interments paralleled the channel. Bullhead Bayou was identified on historic topographic maps and easily observed on older aerial photographs, but it had clearly been filled in 2006 (see Section 2.8.17) prior to the FBISD purchase of the land in 2011.

Excavation along the apparent edge of the tributary exposed a clear, round-bottom channel. The channel bottom was filled with a clean reddish-brown alluvium and bounded by a brown, organic-laden modification of black argillic clay (Houston black). The channel edge was so perfectly straight,

and the bottom so perfectly rounded that it seemed the channel had been artificially straightened. However, the channel appeared identical to the bayou as it was depicted on the 1885/1899 Sartartia map (Figure 2.2). The channel was then filled with gray, brown, and gray-brown clays to the same level as the surrounding terrain. The infill material was easy to spot as it typically contained 2 to 5% architectural refuse (brick, concrete, mortar, window glass, metal scrap, steel pipe, round nails) and faunal bone. The tributary appeared to clearly demark the southern edge of the cemetery as a natural boundary.

After identifying the physical stream channel, scraping in a 15-meter radius continued to the west, where a solid western boundary was identified. Besides a clear and obvious 15-meter buffer between the last interment and the western excavation block edge, a second piece of evidence pointing to a western boundary came in the form of one buried fence post identified in the excavation block. The post was located approximately 12 meters west of the nearest interment and was assumed to indicate a remnant of a cemetery boundary fence. With a clear western boundary, excavation continued to the north and back across the site to the east, continuing until the final two cemetery boundaries had been established.

In April, the THC recommended conducting excavations across the presumed southern stream course and the subsequent inspection on the southern terrace of Bullhead Bayou for additional burials. This was scheduled to start after the northern and eastern boundaries were established, but the task was moved ahead of schedule to comply with JRCTC construction plans.

Excavation began on 19 April 2018 along the south edge of the cemetery block. Three trenches were excavated from the block southward across the tributary, beginning in areas where the highest grave density had been found (Figure 5.7). Infill materials were excavated until the clean reddish-brown sandy loam alluvial channel soils were reached. Working southward, the discreet round-bottom channel was found to be paralleled by a wide, natural slough indicated by interbedded sandy loam and clay overlying the typical black argillic clay subsoil. These natural deposits were overlain by an average of 40 centimeters of the typical channel fill material and 50 to 70 centimeters of “clean fill” from pad construction preparations. Trenching continued southward until a rise in the black clay subsoils was observed. This slough was the ancestral Bullhead Bayou.

Trench A was flanked to the west by Trench B and to the east by Trench C (Figure 5.7). All archeological excavations were conducted within the distribution pattern of previously installed foundation piers for the school, which measured 61 to 152.5 centimeters across and were installed to depths of 7.6 to 15.2 meters.

Trench A (Figure 5.8) was expanded in the middle (in slough deposit) and at the south end (on the old terrace) as block excavations explored for possible human interments. Block excavations were continued well into the black clay subsoil, which was found at a much lower elevation than the black clay underlying the cemetery. Creation of an elevation map of the black clay subsoils found across the cemetery revealed a natural valley where the horizontally motile bayou had migrated over the previous centuries (Figure 5.5).

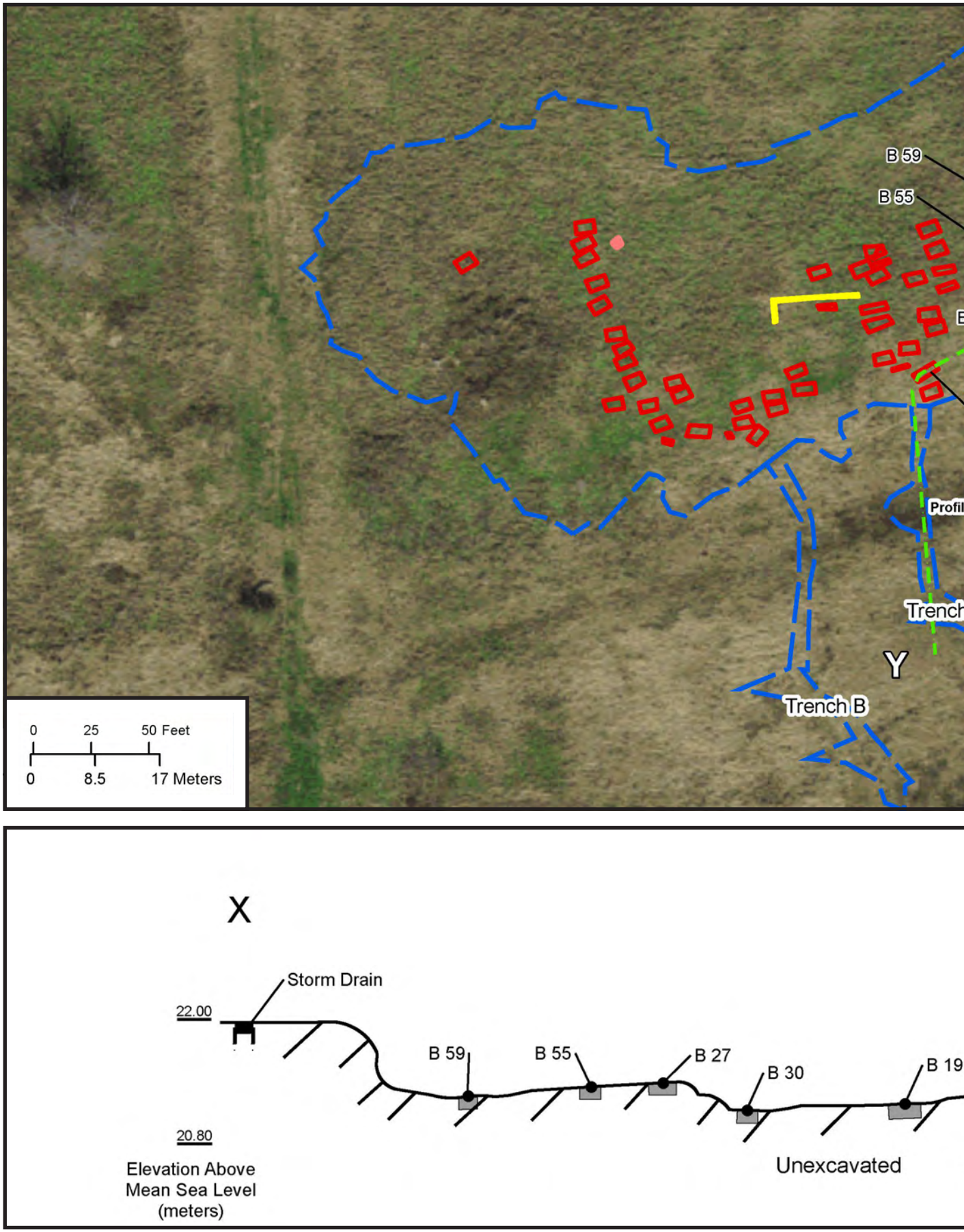
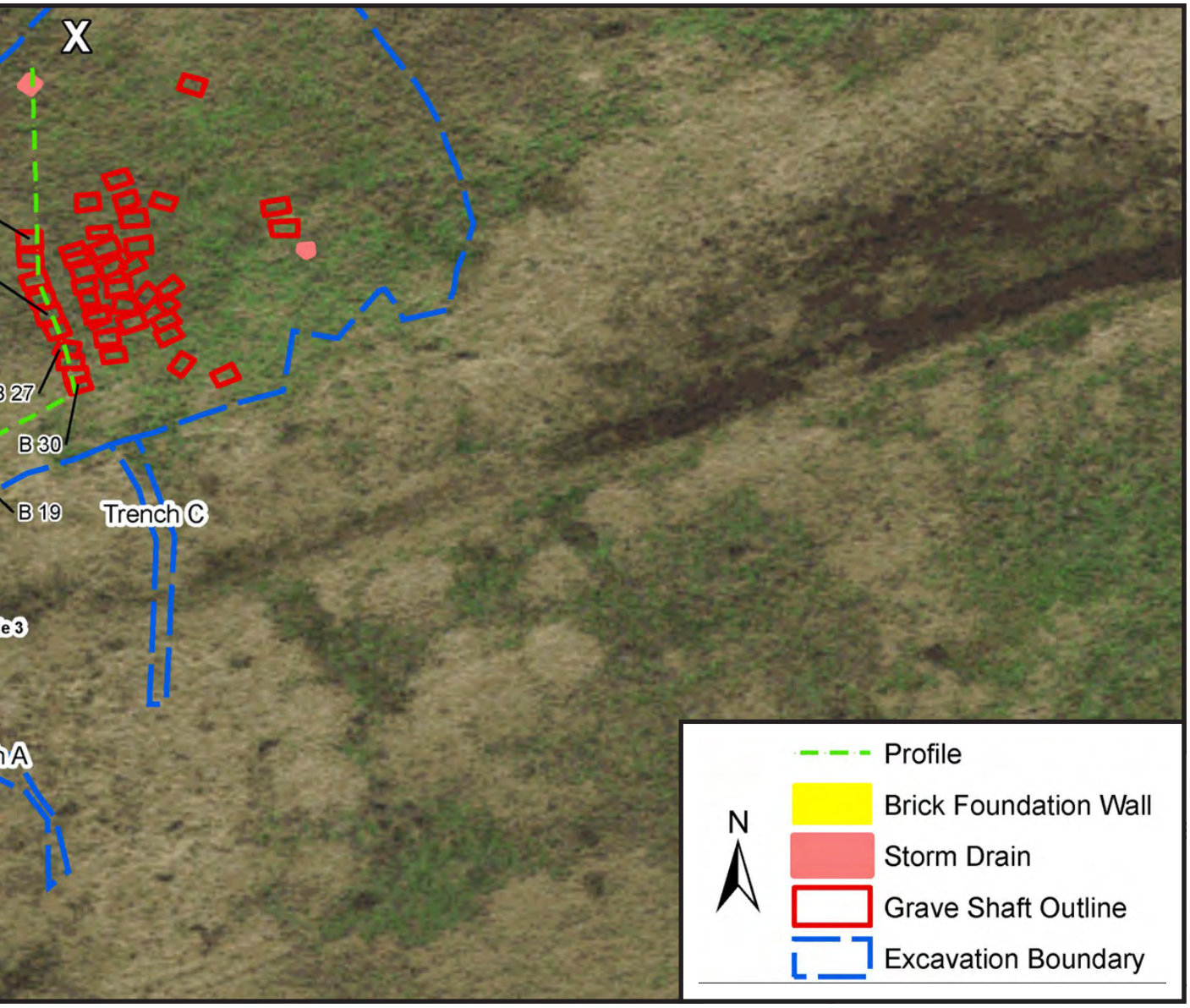


Figure 5.5: Plan Map of Bullhead Cemetery at Discovery Phase and Cross-Section Elevation at Basal Clay


X
B 27
B 30
B 19
Trench C
e 3
h A
Profile
Brick Foundation Wall
Storm Drain
Grave Shaft Outline
Excavation Boundary
N

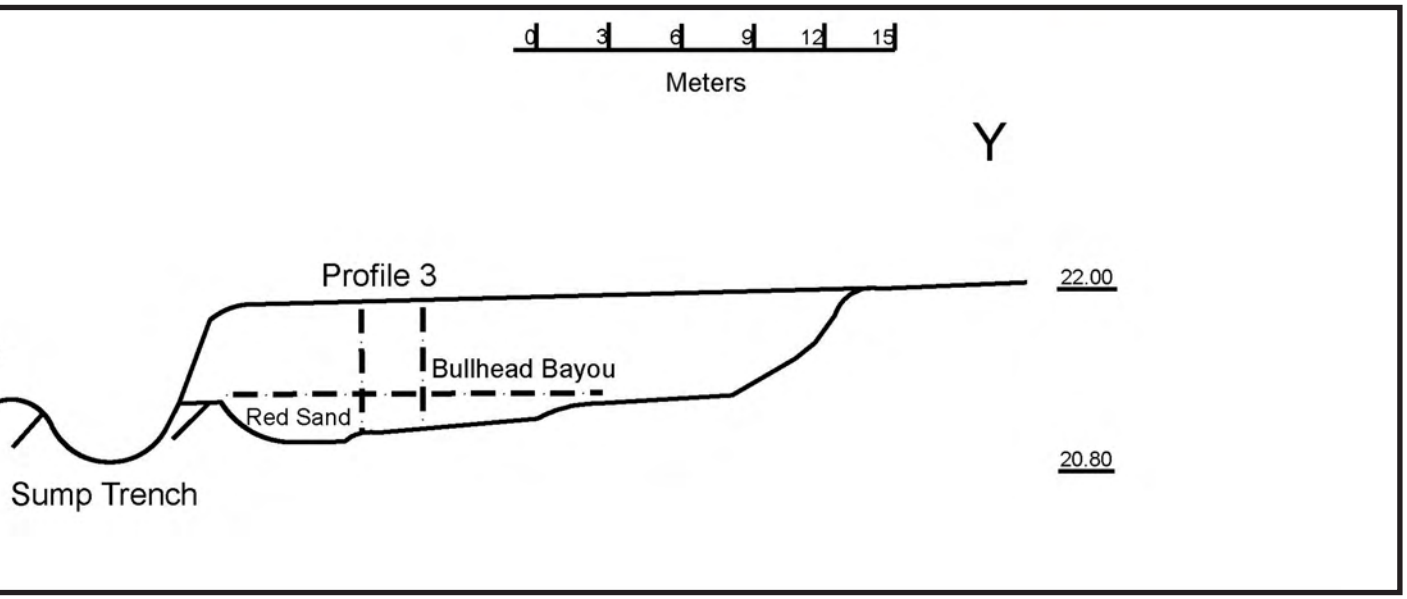

0 3 6 9 12 15
Meters
Y
Profile 3
22.00
Bullhead Bayou
Red Sand
20.80
Sump Trench

Figure 5.8: Trench A Overview, Facing West

Photographs and two profile drawings were made of the complicated stratigraphic sequence within Trench A (Figures 5.9 and 5.10). These figures clearly show the nature of stream fill in both the man-made channel and the clay-bottomed slough. Trench 1 covered an area of 84 square meters and the various depths resulted in 142 cubic meters of removed soil. Human remains were not encountered in Trench A or the excavation blocks placed alongside.

Trench B, to the west of Trench A, began near the first identified interment (Burial 1) and extended southward, crossing the slough. Within Trench B, photographs and a profile drawing were made of the complicated stratigraphic sequence within the old bayou channel (Figure 5.11). The profile clearly showed the mottled nature of the fill along with modern construction debris (metal, glass, and brick) mixed into the backdirt. The fill was resting on undisturbed clays of the original south terrace. Trench B covered an area of 116 square meters and the various depths resulted in a volume of 161 cubic meters of removed soil. Human remains were not encountered in Trench B or within the excavation block at its south end on the old low terrace.

Trench C was excavated from north to south beginning at the deep cut in the first channel due south of a well-organized set of burials (Figure 5.12). The trench finished crossing the first channel, crossed slough deposits, and continued well into construction Block E, terminating near active construction. The trench was typical of the other two but not expanded to a block excavation as it was obviously a continuation of the bayou. Trench C covered an area of 31 square meters and its excavation resulted in removal of 36 cubic meters of soils.

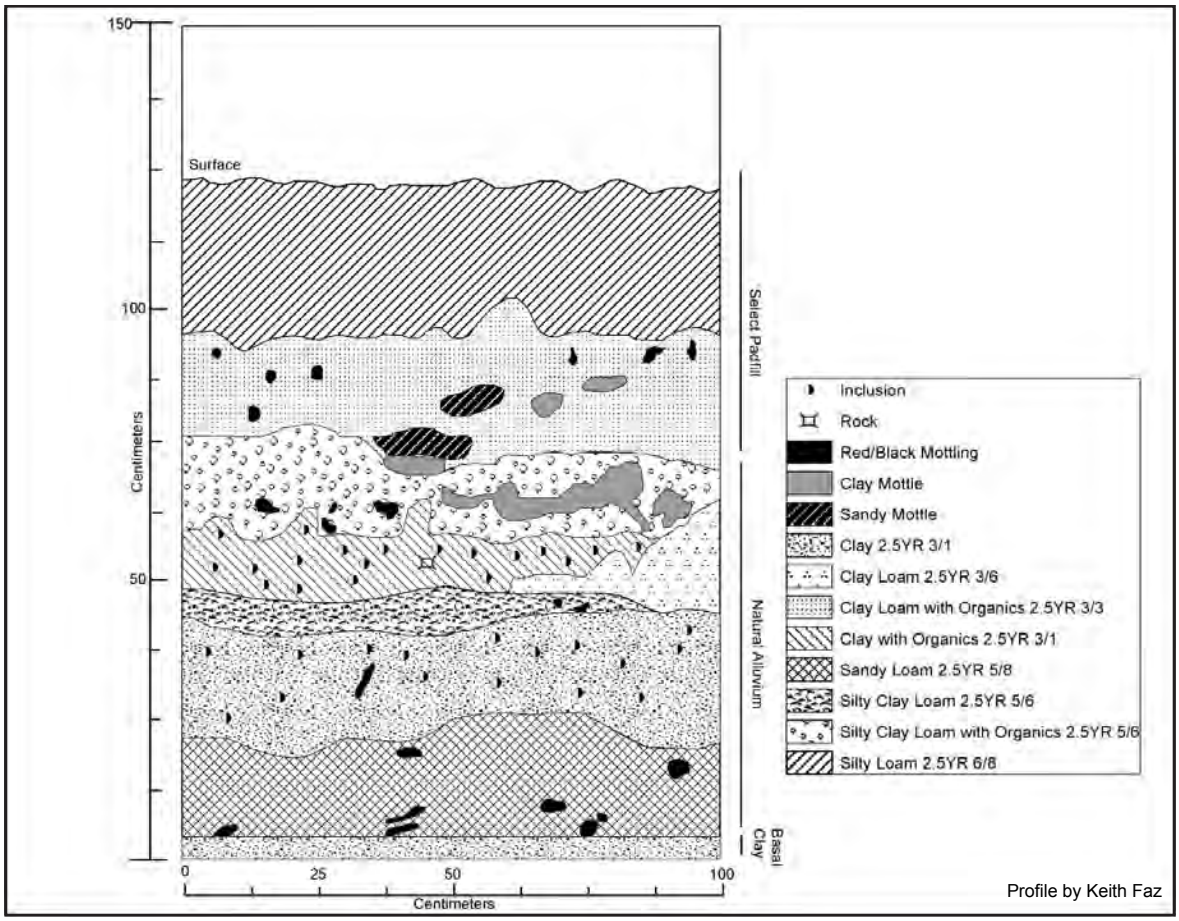


Figure 5.9: FBISD, Trench A, Photograph, Profile 1 in Slough Deposit, Facing Southwest

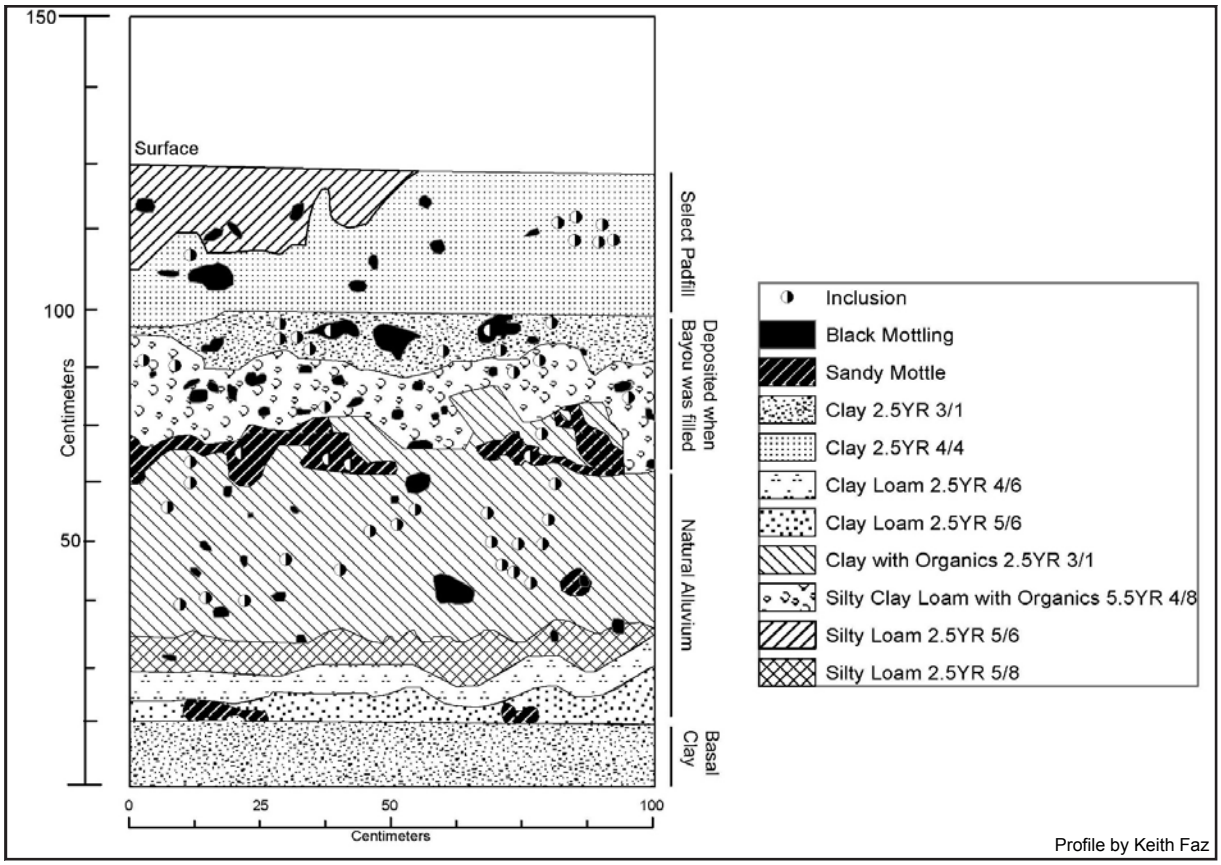


Figure 5.10: FBISD, Trench A, Photograph, Profile 3 on South Terrace of Slough, Facing Southwest

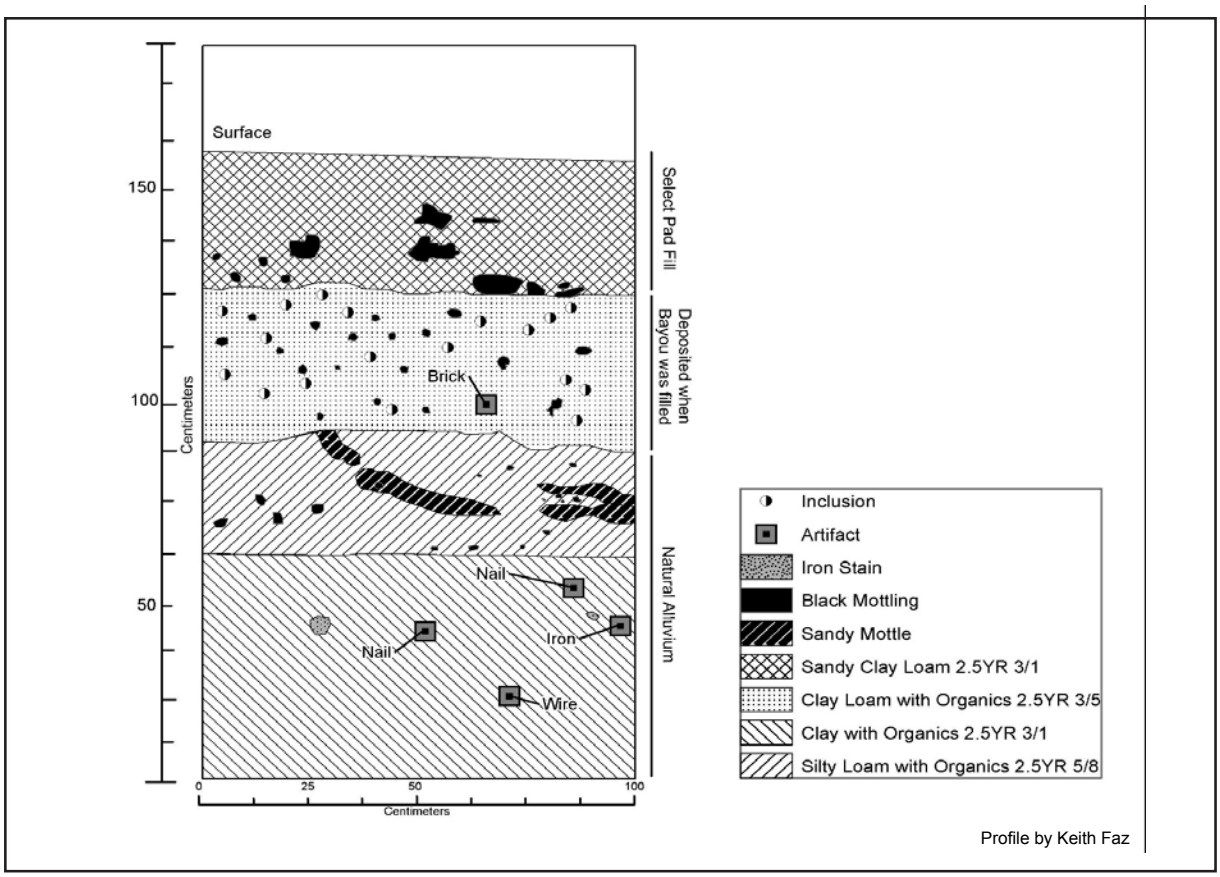


Figure 5.11: FBISD, Trench B, Photograph, Profile 2 on Terrace, Facing Southwest

Figure 5.12: Trench C, Facing North

In conclusion, the carefully opened southern blocks avoided existing building foundation piers and explored the old terrace exposing black clay subsoils. These clays were found at a much lower elevation (as much as 1 meter deeper) as compared to the cemetery, where 75 to 80 percent of the interments were found extending below brownish-red soils and penetrating black clays. There were no indications of grave shafts, nor were there any human remains found in the sidewalls, floor, or spoils south of the man-made channel and the ancestral Bullhead Bayou slough. Continuation of the cemetery and/or the presence of additional isolated burials were considered extremely unlikely south of these two water features. For additional photography pertaining to the Phase 2 Testing and Discovery, see Appendix E.

5.5 Results and Reasoning for a new Scope

The parameters of the Bullhead Camp Cemetery (41FB355) were defined during overburden removal based on three findings. First, a 15-meter gap from the closest burial was established on the west, north, and eastern edges; second, the presence of three posts, thought to represent remnants of a cemetery fence, helped define the eastern and western boundaries; and third, trenching and block excavations south of the channel and slough (ancestral Bullhead Bayou) firmly defined the natural southern boundary. Based on grave distribution, but not counting the buffer zone, the cemetery now measured approximately 87 meters east–west and 54 meters north–south. The THC-approved methodology for identifying graves was concerned not only with discovering graves, but more importantly the delineation of cemetery boundaries. The methodology for the delineation neither addressed exhumation nor bioarchaeological examination, which would require an entirely new Scope of Work.

At this point, Goshawk continued consultations with known experts in the field of bioarcheology, forensics, and logistics to plan for exhumation and on-site laboratory analysis. Goshawk assembled a group that had many years of previous experience in the detailed removal, documentation, and analysis of human remains. Together, a Scope of Work was prepared for submittal to the THC, FBISD, and the County Judge that would facilitate removal and maximize data gleaned from the exhumation process. The goal was to quickly and efficiently remove, clean, study and inventory each burial while preserving provenience and integrity to prepare for reinterment. The location of reinterment had not been identified at the time of exhumation.

6.0 PHASE THREE: EXHUMATION AND CEMETERY FEATURE EXCAVATION

6.1 INTRODUCTION

Once grave locations were identified and properly covered and cemetery boundaries were defined, Goshawk prepared a new Scope of Work. The new Scope of Work detailed methods and goals to be approved by the THC and submitted to FBISD and the courts. The methods would include hand excavation to remove bone, personal artifacts, coffin wood, and hardware while maintaining accurate provenience. Detailed photography, mapping, and burial sketches would be prepared along with complete notes on the exhumations. In addition, appropriate laboratory analysis of each exhumation would be conducted at the on-site research facility. Lastly, Goshawk would prepare each burial for reinterment anticipating assistance from a funeral home.

6.2 COURT HEARING

Working closely with the THC, Goshawk completed a Scope of Work on 1 June 2018 for the exhumation and analysis of the burials. On 4 June 2018, the District Court heard FBISD's petition and issued an Order to Exhume to FBISD. FBISD's petition to the district court, pursuant to Texas Health and Safety Code sections 711.004 and 711.010, was granted. It was anticipated that the human remains and associated funerary items would be relocated to a perpetual care cemetery or a municipal or county cemetery in compliance with Texas Health and Safety Code section 711.010(b). Each set of human remains and associated funerary items would be kept for eventual reburial in an approved location.

It was plainly stated in the court petition that no bone would be exhumed prior to the issuing of the court order, with no encumbrances, from a local district court judge. Further, burials were not removed from the construction site at 12300 University Boulevard, in Sugar Land, Texas, for any reason, other than temporary removal for radiographic or CT scan analysis or genetic and isotopic analysis, without the explicit permission of FBISD and THC until reinterment. Goshawk strictly adhered to these policies during the entire duration of the study.

6.3 METHODOLOGY

6.3.1 Burial Exhumation

Once permission for removal of the burials was granted, remains were excavated and recorded using archaeothanatological methods: coffin outlines, when possible, were exposed by scraping with a backhoe. Once found, grave shafts and coffin outlines were photographed, mapped, and measured, and grave orientation was determined. Shovels and trowels were used to remove overburden from the remains. Only wood tools were used to remove sediment immediately surrounding the skeletal elements and any associated personal artifacts or coffin hardware and coffin wood. Munsell colors and texture of the sediment was recorded. All sediment excavated after finding the coffin outline was screened using ¼-inch mesh. Once exposed, human remains were mapped and photographed. Additional photographs were taken for 3D reconstruction. When necessary, close-up photographs were taken of any personal items and coffin hardware. Care was taken to record the position and location of body and skeletal elements within the grave. Each bone was removed according to skeletal element. If remains were on top of another, observations of the layering were documented, such as the association of the atlas and skull.

Spatial control was maintained with the use of a total station and intermittent aerial photography by drone. Once all burials identified during the discovery phase were disinterred, mechanical excavation was resumed to a depth of 30 to 60 centimeters deeper than the floor elevation of the graves to be certain that any remaining interment was found. The outliers were hand excavated and subjected to customary analysis, as were the previous interments, as described in detail below.

6.3.2 Burial Analysis

Once moved to the mobile on-site laboratory, Dr. Catrina Whitley (forensic anthropologist) and her assistants analyzed each individual set of remains. Laboratory investigations included bone measurements and comparative studies to determine ethnicity, sex, age at death, stature, pathological conditions, musculoskeletal stress changes, health profiles, x-rays of bone, and cause of death (if possible). An intensive series of photographs were taken of all human remains. Once analysis was complete, burials were prepared for storage prior to reinterment.

Collection of material from each burial was made for the purposes of parasitological, isotope, and mitochondrial DNA analysis. This was done in an effort to further the researcher's understanding of the conditions of life within the Bullhead Convict Labor Camp and to possibly identify individuals. Sediment samples were collected to study parasitic loads and assist in the determination of sanitary conditions. Collection of dental calculus (plaque) was also conducted for future diet reconstruction. All biological samples were curated at TARL at the University of Texas, J. J. Pickle Research Facility in Austin, Texas.

6.3.3 Artifact Analysis and Records Curation

Goshawk collected and analyzed artifact assemblages (including nails and coffin wood) associated with each burial. These materials were returned to each interment for reburial. Artifacts from a secondary context were cleaned and analyzed. These materials consisted of primarily iron-based implements used for agricultural and prison-related purposes. Because ironous objects suffer from accelerated degradation when exposed to oxygen, the artifacts required stabilization prior to curation. Goshawk then partnered with the Conservation Research Laboratory (CRL) at Texas A&M University in Bryan, Texas, to stabilize the metal artifacts from secondary context. Conservation of iron artifacts was completed prior to curation at Sam Houston Memorial Museum in Huntsville, Texas. Paperwork, including forms, maps, sketches, photographic logs, and digital data were also curated at Sam Houston Memorial Museum in accordance with the Antiquities Code of Texas and the provisions of TAC Permit #8197.

6.3.4 Document Preparation and Production

The report of archeological investigations, following CTA and professional bioarchaeological reporting standards, was prepared and submitted to the THC in accordance with the requirements of TAC permit #8197. The report documented all fieldwork conducted within the JRCTC, human skeletal remains and funerary item analysis, and interpretations. Upon finalization, 14 copies of the report were produced and submitted to FBISD, the THC, the Sam Houston Memorial Museum, Texas Archeological Research Laboratory (TARL) and other approved repositories in compliance with the provisions of the TAC permit. In the case of repositories open to the general public, the redacted

report (Volume 1) was submitted. Volume 2 of the report was produced only on solid-state media and contained raw analytical data, bulk photography, photogrammetric models, CT scans, radiographic images, and burial form packets. Volume 2 was only distributed to protected access repositories including THC, SHMM, and the Center for Archeological Studies at Texas State University in San Marcos, Texas.

6.4 Excavation: Processes and Observations

Burial excavation procedures were devised by Dr. Whitley and utilized some protocols set by Tiné and Boyd (2003) and Sprague (2005). Forms were designed specifically for historic cemetery excavation and included data gathered on the grave shaft, burial container, body position, artifact locations and positions, and types and number of artifacts and personal objects. Detailed maps were drawn.

Coffin hardware and artifacts were gathered by compartment, a procedure identified by Tiné and Boyd (2003). Compartments included sections A–F: the skull within A and B, the left side of the chest area to the hips in D, the right side of the chest area to the hips in C, the left leg and foot in E, and the right leg and foot in F. An additional quadrant was included on the central line over the chest area spanning from the neck area to the waist, which was not included in the original form design by Tiné and Boyd (2003). This was added to differentiate the buttons and artifacts gathered on the center line, such as shirt buttons, underwear buttons, and pins that may be located on the neck.

Grave shaft dimensions were collected, along with coffin dimensions. Coffin dimensions were based on the visible edges of the preserved wood, however, in some instances, coffin dimensions had to be determined by coffin nail location. Unfortunately, coffin collapse may have reduced the initial dimensions of the coffins. It was not possible to determine coffin dimension from the base (which usually retains shape) in instances when the sides of the coffin were better preserved than the base. Headboard, footboard, shoulder width, and length were collected for hexagonal coffins. Maximum width and length were collected on rectangular coffins. Orientation of the grave shaft and coffin were also collected.

The information collected included the orientation of the body. The orientation of the body was based on the location of the head in the grave, the head-to-foot orientation, and the direction the head was facing according to orbit direction, body flexure, knee flexure, form of disposal, hand and arm position, articulation, and type of deposition (on the back, side, face down, etc.).

The excavation crew drew maps on graph paper, as well as detailed drawings of the grave shaft and coffin outline when visible. Artifacts and nails were mapped before being removed and bagged by zone. Artifacts and nails were bagged separately. Nails were mapped indicating whether the head was up, point was up, or laid on its side. If on the side, the head direction was marked with an X. Recording direction allowed additional reconstruction of the coffin. Only a rough sketch of the remains was made at this time, because final maps were drawn from detailed photographs. Field maps provided confirmation of artifacts and nails in the final maps. Before removal, all remains were photographed in detail, usually collecting at least 30 to 40 pictures. A photo was taken of the photo board, complete with burial information, at the beginning and end of the photography session to

ensure this was documented and easy sorting of the photographs into folders for collections. A plan photograph from above was generally taken from a ladder. One photograph was also taken from the foot of the burial and included the photo board. Detailed photographs were then taken for 3D reconstruction and to conserve detailed, close-up photographs of the entire burial.

6.5 Features 16 and 17: Brick Foundation Walls and Trash Pit within Cemetery

6.5.1 Introduction

Two features were found during the exhumation. Because these features were found in close proximity to or possibly overlying grave shafts, they were explored concurrently. The two features were only important in that they may have disturbed burials during their construction.

A modern “C”-shaped brick wall had been constructed within the cemetery boundaries before 1930, as observed on historic aerial photography (see section 2.8.4). At a later time, a pile of historic household trash had been deposited at the southeast corner of the wall. As mechanical excavation could not unscramble the features, a grid was laid over the southeast end of the wall and most of the trash pile. Hand excavation commenced to further define the features. These were designated Features 16 and 17, respectively (Figure 6.1). The relation of the wall to burials is seen in Figure 6.2.

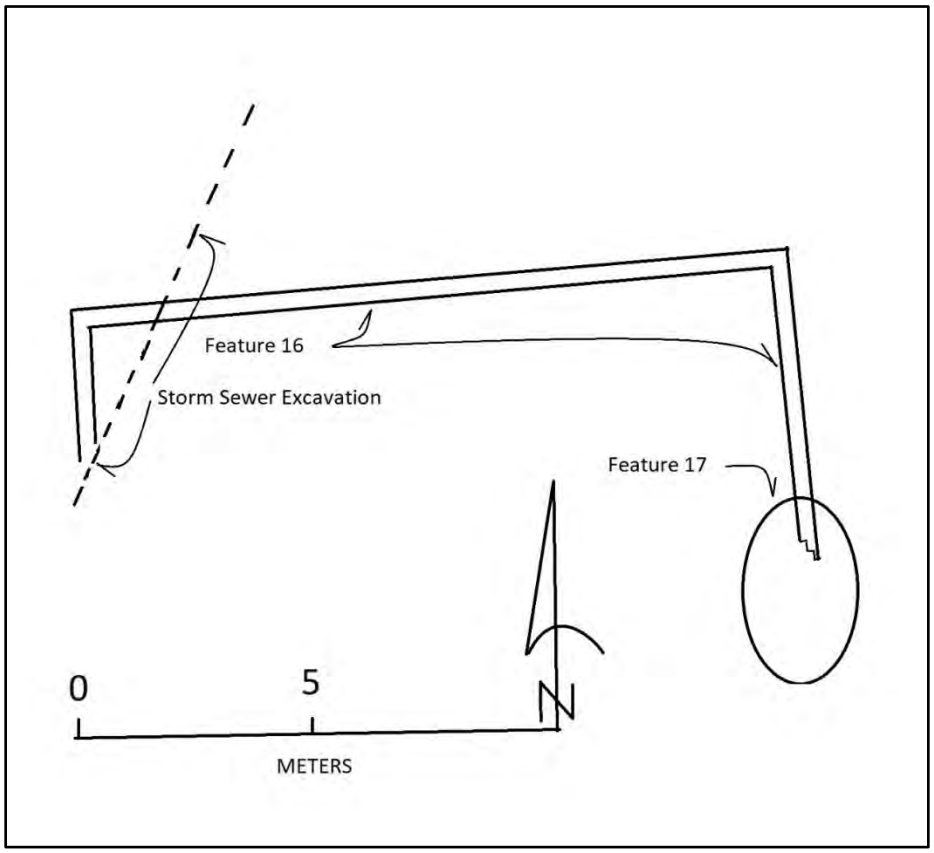


Figure 6.1: Features 16 and 17, Brick Wall and Trash Pit

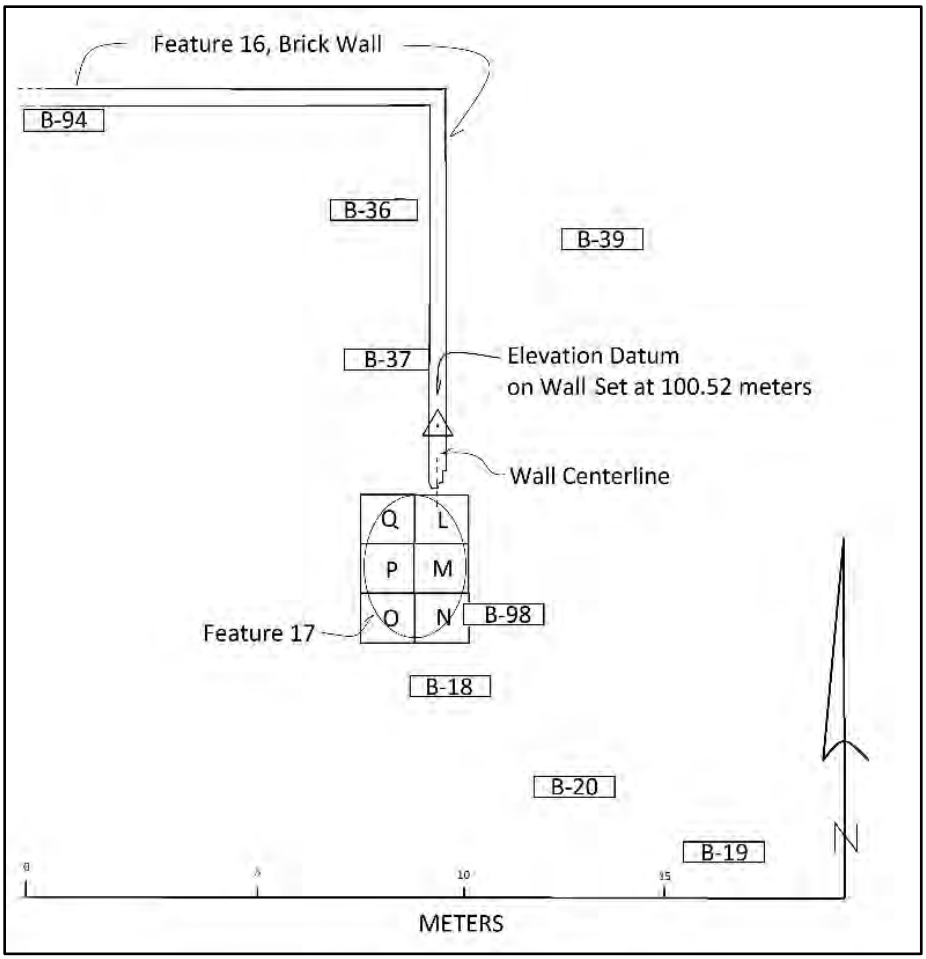


Figure 6.2: Grid Pattern Set on Feature 17 at the South End of the Brick Foundation Walls

6.5.2 Feature 16: Brick Foundation Walls

Feature 16 was a brick wall or structural foundation for a three-sided equipment shed or mule barn. It was initially cut across by the contractor during trenching operations for a storm sewer and later by archeologists removing overburden to expose burials. Feature 16 measured 25 meters along the east–west wall and a little less than 7 meters along each of the shorter north–south walls. Feature 16 was triple wythe and three to five courses tall depending on land slope. It consisted of stamped STANDARD brick and was well-mortared and finished. Several postholes were noted south of Feature 16, where a fourth brick wall or foundation could have been constructed. This indicates the superstructure was an open shed-type construction perhaps with an elevated wooden floor set on joists. Other than the postholes, there were no wooden remains of the superstructure identified during the excavation. The wall was overlying one or more burials.

Figure 6.3: Feature 16 Overlays Burial 36, Left, and Abutting Burial 37 on the Right, Facing East.

6.5.3 Feature 17: Trash Pit

Feature 17 was a trash pit overlying at least one burial located at the south end of the eastern brick wall (Figure 6.1). The trash dump, measuring approximately 4 meters by 3 meters, postdated the Feature 16 brick foundation. A metric grid was laid over Feature 17 and the truncated southeast end of Feature 16 (Figure 6.2).

The heavy trash pit deposit began approximately 2 meters south of Burial 37 as a surface scatter of sewer tile, window and bottle glass, brick, nails, and other assorted metals. Excavation of Feature 16 began by laying out three units (L, M, and N) atop the trash pit. Later, two adjacent Units O and P were placed to the west abutting Units L and M, and still later Unit Q was placed. Most levels were excavated in 20 centimeter increments. A temporary datum for grid excavation was set atop the brick wall north of unit L to facilitate unit excavation.

Unit L was excavated through a dense zone of household and construction trash in three levels, exposing the end of the brick wall. Bone material was not recovered from Unit L.

Unit M revealed human bone mixed with modern trash in Level 1. Level 2 was composed of indurated clay loam with some mottling. Bone fragments were found throughout Level 2 also.

Unit N produced household and construction trash but no significant artifacts and no human bone.

Excavation of Unit O began by raking loose artifacts off the ground surface. The artifacts appeared to be the remnants of backhoe operations and erosion from storm events. These included glass (47

windowpane and three bottle fragments), ten sewer tiles, one brick, 10 asbestos tiles, and three metal (one iron and two bronze/copper) artifacts. In the Level 2, human bone was revealed in the southeast corner.

Unit P produced the usual historic construction and household artifacts along with some human bone. Hand excavating began with Level 1 which varied from 5 cm thick in the northeast corner to 15 to 20 centimeters thick on the uphill slope. Recovered artifacts included three asbestos tile fragments, three ceramics, one shell button, one rivet, one wire nail, 13 other metal fragments, one Corbicula sp., one human bone fragment, and 15 freshwater mussel shells. Unit P was continued through Level 2 (20 to 40 centimeters below datum), which comprised the bulk of the cultural deposit. Once Level 2 was completed, only a few small fragments of bone material were revealed in the southeast corner. Artifacts in Level 2 were sparse.

Unit Q was excavated to the bottom of the first 20-centimeter level. Small fragments of human bone were found coming out of the reddish-brown sandy clay loam. Heavy modern trash was found throughout, but the unit was discontinued at the bottom of the first level where mottled to black subsoil was encountered.

Units L, M, N, O, P, and Q were excavated with all but Q taken to sterile clay. At completion, human bone, assumed associated with Burial 18, was found in four of the six units. This assumption was because Burial 18 had been disturbed prior to the Goshawk excavation. After the six-unit excavation, Burial 98 was found beneath and adjacent to Feature 17 and may also have contributed to the bone material found in the four units.

Several other burials were found under and adjacent to Feature 16. One was near the north part of the wall and five were near the east wing. A brief description of their relationship indicates the wall builders had no idea they were building atop a cemetery, and although the builder's trench penetrated the upper grave shafts of some, the bones in these five burials remained undisturbed.

Burial 37 was defined by its four corners and the burial pit. Excavation showed the articulated skeleton had feet extending up to or just under the brick wall. The burial pit profile indicated the surrounding soil was Houston black clay and the grave shaft had been excavated into this clay zone. The grave shaft was overlain by a thin layer of ash, then trash, builder's trench and wall. Figure 6.4 shows this profile defining the edge of the grave shaft (mottled brown soil) with the adjacent black clay. Both grave shaft and black clay are overlaid by obviously more recent deposits.

A series of distinct strata was found overlying Burial 37 sometimes lapping against the brick wall. Reconstructing the time sequence indicated the lowest level was Houston black clay (Time 1). Excavated into the black clay was the Burial 37 burial pit with the mottled soil as backfill (Time 2). Atop this was a very thin stratum of reddish brown sandy clay loam (Time 3) and above this was a 2- to 3-centimeter layer of ash, charcoal, and burnt glass and metal artifacts (Time 4). Above this was a 15-centimeter-thick zone of mottled brown to reddish brown sandy clay loam containing charcoal, ash and few artifacts (Time 5). Overlying Time 5 was a light brown band of soil that may have represented another burn zone. It was 3 to 4 centimeters thick and seemed continuous (Time

6). The brick wall (Feature 16) was constructed last (Time 7). Rusted metal and glass artifacts were in the uppermost zone atop and lapping against the wall and may represent the latest agricultural time

Figure 6.4: Feature 16, Wall Overlying Ash and Charcoal Zone, Grave Shaft Burial 37 Backdirt, and the Straight Burial Pit Wall Dug into Black Native Soil, Facing East-southeast

interval at the site (Time 8). Feature 16 east wall profile shows the cross-section of STANDARD-marked brick laid in five well-mortared courses (Figure 6.5). Of note was mortar found in the builder's trench showing how shallow the bricklayers dug to begin the wall.

Burial 37 was extracted after mapping and photography. Artifacts recovered from Burial 37 include a total of 8 buttons, an unidentified metal object, and shell, with most found near the sacrum. All were mapped in place except for one button found in the screen.

Burial 94 began as an exposed cranium abutting the south side of the east/west running portion of the brick wall (Feature 16). The left side of the burial paralleled the wall and appeared to be below the builder's trench. It was probably not disturbed by trench construction, but it was apparent something had disturbed the burial prior to excavation, as one femur was out of place. The burial was anatomically correct, with the head to the west. By removing the wall and shovel shaving down to the top of grave, the nail pattern for the coffin was exposed, suggesting the wall missed all of the burial except for some of the upper grave shaft.

Figure 6.5: Feature 16, Wall with Excavated Burial 36 in Foreground, Burial 37 Under Black Plastic Sheeting on the Right, Facing South

6.6 Artifacts Collected for Curation

A small sample of artifacts were collected during construction monitoring. During the cemetery delineation process and exhumation, a number of artifacts were discovered in a secondary context. A small number of artifacts were collected from unit excavations associated with Features 16 and 17. During exhumation, funerary hardware and coffin wood, as well as personal effects, were collected and quantified. Any material collected during exhumation was analyzed and kept together with each individual. Those materials were returned to the ground with each corresponding individual during reinterment. There remained a question of what materials would be curated since materials not found with graves were, naturally, out of context or in association with Features 16 and 17 that most assuredly postdate the cemetery.

Materials collected from a secondary context or from unit excavation, primarily consisting of metallic agricultural objects, buttons, glass, and ceramics, were brought to Austin and laid out for inspection by Bill Martin and Brad Jones of the THC. After discussion, it was agreed that a secondary context artifact would only be curated if it could plausibly have been in use during or prior to the Convict Labor Era. Therefore, all collected objects dating prior to 1912 would be curated. Any unidentifiable material or material that could be proven to post-date the convict labor era was discarded. Examples of unidentifiable materials are non-diagnostic glass, iron, or ceramic. Examples of materials that clearly post-date the convict era are glassware or bricks dating to the mid-20th century or a pipe fitting dating to the 1980's.

On the following Table 6.1, all materials collected are catalogued, whether collected for analysis from individual burials prior to reinterment or collected for curation. Those materials shaded blue were returned to the ground with the corresponding individual. Those materials shaded orange are metallic artifacts that went through conservation at the Conservation Research Laboratory at Texas A&M

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
3	n/a			Zones		7	Pre c 1890	Historic
3	n/a			Zones		8	Pre c 1890	Historic
3	n/a			Zones		3	Pre c 1890	Historic
3	n/a			Zones		6	Pre c 1890	Historic
3	n/a			Zones		10	Pre c 1890	Historic
3	n/a			Zones		25	Pre c 1890	Historic
4	n/a			General Collection from Disturbance		4	Pre c 1890	Historic
4	n/a			General Collection from Disturbance		8	Pre c 1890	Historic
4	n/a			General Collection from Disturbance		12	Pre c 1890	Historic
4	n/a			General Collection from Disturbance		4	Pre c 1890	Historic
4	n/a			General Collection from Disturbance		1	1890-present	Historic
4	n/a			Wet Screen		4	Pre c 1890	Historic
4	n/a			Wet Screen		4	Pre c 1890	Historic
4	n/a			Wet Screen		1		Historic
4	n/a			Zone		1	1890-present	Historic
4	n/a			Zone		3	1890-present	Historic
4	n/a			Zone		1		Historic
4	n/a			Zone		6	Pre c 1890	Historic
4	n/a			Zone		10	Pre c 1890	Historic
4	n/a			Zone		3	Pre c 1890	Historic
4	n/a			Zone		11	Pre c 1890	Historic
4	n/a			Zone		5	Pre c 1890	Historic
4	n/a			Zone		7	Pre c 1890	Historic
4	n/a			Zone		6	Pre c 1890	Historic
4	n/a			Zone		6	Pre c 1890	Historic
5	n/a			Shaft Fill aka Top of Coffin		6	Pre c 1890	Historic
5	n/a			Shaft Fill aka Top of Coffin		6	Pre c 1890	Historic
5	n/a			Shaft Fill aka Top of Coffin		1	Pre c 1890	Historic
5	n/a			Shaft Fill aka Top of Coffin		23	Pre c 1890	Historic
5	n/a			Scraping		4	Pre c 1890	Historic
5	n/a			Scraping		1	Pre c 1890	Historic
5	n/a			Unlabeled		2	Pre c 1890	Historic
5	n/a			Unlabeled		1	Pre c 1890	Historic
5	n/a			Outside grave shaft		1	Pre c 1890	Historic
5	n/a			Wet screen		2	Pre c 1890	Historic
5	n/a			Wet screen		1	Pre c 1890	Historic
5	n/a			General Collection		1	Pre c 1890	Historic
5	n/a			General Collection		1	Pre c 1890	Historic
5	n/a			General Collection		3	Pre c 1890	Historic
5	n/a			Zone		1	Pre c 1890	Historic
5	n/a			Zone		3	Pre c 1890	Historic
5	n/a			Zone		3	Pre c 1890	Historic

University. Those materials shaded green were curated with no additional stabilization or conservation. Those materials shaded yellow were discarded. For additional photography pertaining to the Phase 3 exhumation and burial effects, see Appendix E.

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Unknown	Unknown	Wire	Wire	n/a
Metal	Iron Alloy	Unknown	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Unknown	Fastener	Spike	Wire	Box
Metal	Iron Alloy	Unknown	Unknown	Wire	Wire	n/a
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
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Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
5	n/a			Zone		2	Pre c 1890	Historic
5	n/a			Zone		2	Pre c 1890	Historic
5	n/a			Zone		3	Pre c 1890	Historic
5	n/a			Zone		1	Pre c 1890	Historic
5	n/a			Zone		1	Pre c 1890	Historic
5	n/a			Zone		1	Pre c 1890	Historic
5	n/a			Zone		2	Pre c 1890	Historic
5	n/a			Zone		1	Pre c 1890	Historic
5	n/a			Zone		3	Pre c 1890	Historic
5	n/a			Under Scapula		1		Historic
5	n/a			Under Left Rib		2		Historic
6	n/a			Shaft Fill		1	1890-present	Historic
6	n/a			Shaft Fill		1	1890-present	Historic
6	n/a			Shaft Fill		1	1890-present	Historic
6	n/a			Zones		12	Pre c 1890	Historic
6	n/a			Zones		3	Pre c 1890	Historic
6	n/a			Zones		17	Pre c 1890	Historic
6	n/a			Zones		10	Pre c 1890	Historic
6	n/a			Zones		28	Pre c 1890	Historic
6	n/a			Zone		1		Historic
6	n/a			Wet Screen		1		Historic
6	n/a			Unlabeled		1		Historic
7	n/a			General Collection and Wet Screen		3	Pre c 1890	Historic
7	n/a			General Collection and Wet Screen		16	Pre c 1890	Historic
7	n/a			General Collection and Wet Screen		9	Pre c 1890	Historic
7	n/a			General Collection and Wet Screen		10	Pre c 1890	Historic
7	n/a			General Collection		2	Pre c 1890	Historic
7	n/a			General Collection		2	Pre c 1890	Historic
7	n/a			General Collection		7	Pre c 1890	Historic
8	n/a			Zones		1	Pre c 1890	Historic
8	n/a			Zones		8	Pre c 1890	Historic
8	n/a			Zones		1	Pre c 1890	Historic
8	n/a			Zones		2	Pre c 1890	Historic
8	n/a			General Collection from Disturbance		2	Pre c 1890	Historic
8	n/a			General Collection from Disturbance		2	Pre c 1890	Historic
8	n/a			General Collection from Disturbance		4	Pre c 1890	Historic
8	n/a			General Collection from Disturbance		1	Pre c 1890	Historic
8	n/a			General Collection from Disturbance		1		Historic
8	n/a			General Collection from Disturbance		1		Historic
8	n/a			Wet Screen		1		Historic
9	n/a			Zones		21	Pre c 1890	Historic
9	n/a			Zones		10	Pre c 1890	Historic
9	n/a			Zones		6	Pre c 1890	Historic
9	n/a			Zones		10	Pre c 1890	Historic
9	n/a			Zones		5	Pre c 1890	Historic
9	n/a			Zones		1	Pre c 1890	Historic
9	n/a			Zone	Medial R Femur	1		Historic
11	n/a			General Collection and Wet Screen		16	Pre c 1890	Historic
11	n/a			General Collection and Wet Screen		3	Pre c 1890	Historic
11	n/a			General Collection and Wet Screen		24	Pre c 1890	Historic
11	n/a			General Collection and Wet Screen		5	Pre c 1890	Historic
11	n/a			General Collection and Wet Screen		42	Pre c 1890	Historic

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Unknown	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Unknown	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Unknown	Fastener	Nail	Wire	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Clothing?	Fastener	Buckle	Single D-Frame	Single Pivot
Metal	Iron Alloy	Unknown	Unknown	Wire	Wire	n/a
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Finishing
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
11	n/a			Zone		2	Pre c 1890	Historic
11	n/a			Zone		2	Pre c 1890	Historic
11	n/a			Zone		2	Pre c 1890	Historic
11	n/a			Zone		1	Pre c 1890	Historic
11	n/a			Zone		1	Pre c 1890	Historic
11	n/a			Zone		1	Pre c 1890	Historic
11	n/a			Zone		4	Pre c 1890	Historic
11	n/a			Zone		1	Pre c 1890	Historic
11	n/a			Wet screen?		5		Historic
33	n/a			Zones		3	Pre c 1890	Historic
33	n/a			Zones		2	Pre c 1890	Historic
33	n/a			Zones		18	Pre c 1890	Historic
33	n/a			Zones		7	Pre c 1890	Historic
33	n/a			Zones		27	Pre c 1890	Historic
35	n/a			Scraping		1	Pre c 1890	Historic
35	n/a			Scraping		1	Pre c 1890	Historic
35	n/a			Scraping		1	Pre c 1890	Historic
35	n/a			General Collection		10	Pre c 1890	Historic
35	n/a			General Collection		7	Pre c 1890	Historic
35	n/a			General Collection		5	Pre c 1890	Historic
35	n/a			General Collection		2	Pre c 1890	Historic
35	n/a			General Collection		7	Pre c 1890	Historic
35	n/a			General Collection		8	Pre c 1890	Historic
76	n/a			Disturbed Burial Fill		3	Pre c 1890	Historic
76	n/a			Disturbed Burial Fill		1	Pre c 1890	Historic
76	n/a			Disturbed Burial Fill		5	Pre c 1890	Historic
77	n/a			General Collection and Wet Screen		3	Pre c 1890	Historic
77	n/a			General Collection and Wet Screen		1	1890-present	Historic
77	n/a			General Collection and Wet Screen		2	Pre c 1890	Historic
77	n/a			General Collection and Wet Screen		11	Pre c 1890	Historic
77	n/a			General Collection and Wet Screen		30	Pre c 1890	Historic
78	n/a			General Collection and Wet Screen		3	Pre c 1890	Historic
78	n/a			General Collection and Wet Screen		3	Pre c 1890	Historic
78	n/a			General Collection and Wet Screen		30	Pre c 1890	Historic
78	n/a			General Collection and Wet Screen		66	Pre c 1890	Historic
80	n/a			General Collection		10	Pre c 1890	Historic
80	n/a			General Collection		1	Pre c 1890	Historic
80	n/a			General Collection		1	Pre c 1890	Historic
80	n/a			General Collection		3	Pre c 1890	Historic
80	n/a			General Collection		2	1890-present	Historic
80	n/a			General Collection		1	1890-present	Historic
80	n/a			General Collection		3	1890-present	Historic
80	n/a			General Collection		1	1890-present	Historic
80	n/a			General Collection		1	1890-present	Historic
80	n/a			General Collection		3	1890-present	Historic
80	n/a			General Collection		1		Historic
80	n/a			General Collection		1		Historic
80	n/a			General Collection		2		Historic
90	n/a			Disturbed Burial Fill		2	1890-present	Historic
90	n/a			Disturbed Burial Fill		3	1890-present	Historic
90	n/a			Disturbed Burial Fill		1	1890-present	Historic
90	n/a			Disturbed Burial Fill		7	1890-present	Historic
90	n/a			Disturbed Burial Fill		1	1890-present	Historic
90	n/a			Disturbed Burial Fill		3	1890-present	Historic

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Finishing
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Unknown
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Unknown	Unknown	Wire	Wire	Looped
Metal	Iron Alloy	Unknown	Unknown	Wire	Wire	n/a
Metal	Iron Alloy	Unknown	Unknown	Wire	Wire	n/a
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
90	n/a			Disturbed Burial Fill		1	1890-present	Historic
90	n/a			Disturbed Burial Fill		5	1890-present	Historic
90	n/a			Disturbed Burial Fill		1		Historic
90	n/a			Disturbed Burial Fill		7	1890-present	Historic
90	n/a			Disturbed Burial Fill		1	Pre c 1890	Historic
90	n/a			Disturbed Burial Fill		1	1890-present	Historic
90	n/a			Disturbed Burial Fill		4		Historic
48	n/a			General Collection		7	Pre c 1890	Historic
48	n/a			General Collection		15	Pre c 1890	HIstoric
48	n/a			General Collection		3	Pre c 1890	HIstoric
48	n/a			General Collection		5	Pre c 1890	Historic
48	n/a			General Collection		10	Pre c 1890	Historic
48	n/a			General Collection		17	Pre c 1890	Historic
41	n/a			General Collection		30	Pre c 1890	Historic
41	n/a			General Collection		28	Pre c 1890	Historic
41	n/a			General Collection		28	Pre c 1890	Historic
41	n/a			General Collection		2	Pre c 1890	Historic
47	n/a			General Collection		16	Pre c 1890	Historic
47	n/a			General Collection		4	Pre c 1890	Historic
47	n/a			General Collection		15	Pre c 1890	Historic
47	n/a			General Collection		13	Pre c 1890	Historic
47	n/a			General Collection		13	Pre c 1890	Historic
47	n/a			Noted at left collar		1		Historic
74	n/a			General Collection and Wet Screen		12	Pre c 1890	Historic
74	n/a			General Collection and Wet Screen		1	Pre c 1890	Historic
74	n/a			General Collection and Wet Screen		24	Pre c 1890	Historic
74	n/a			General Collection and Wet Screen		4	Pre c 1890	Historic
74	n/a			General Collection and Wet Screen		4	Pre c 1890	Historic
74	n/a			General Collection and Wet Screen		4	Pre c 1890	Historic
74	n/a			General Collection and Wet Screen		11	Pre c 1890	Historic
86	n/a			General Collection and Wet Screen		13	Pre c 1890	Historic
86	n/a			General Collection and Wet Screen		6	Pre c 1890	Historic
86	n/a			General Collection and Wet Screen		12	Pre c 1890	Historic
86	n/a			General Collection and Wet Screen		31	Pre c 1890	Historic
86	n/a			General Collection and Wet Screen		24	Pre c 1890	Historic
86	n/a			General Collection and Wet Screen		2	Pre c 1890	Historic
93	n/a			General Collection and Wet Screen		36	Pre c 1890	Historic
93	n/a			General Collection and Wet Screen		10	Pre c 1890	Historic
93	n/a			General Collection and Wet Screen		20	Pre c 1890	Historic
93	n/a			General Collection and Wet Screen		6	Pre c 1890	Historic
93	n/a			General Collection and Wet Screen		6	Pre c 1890	Historic
93	n/a			General Collection and Wet Screen		4	Pre c 1890	Historic
93	n/a			General Collection and Wet Screen		12	Pre c 1890	Historic
93	n/a			General Collection and Wet Screen		1		Prehistoric
12	n/a			General Collection and Wet Screen		38	Pre c 1890	Historic
12	n/a			General Collection and Wet Screen		2	Pre c 1890	Historic
12	n/a			General Collection and Wet Screen		3	Pre c 1890	Historic
12	n/a			General Collection and Wet Screen		8	Pre c 1890	Historic
12	n/a			General Collection and Wet Screen		13	Pre c 1890	Historic
12	n/a			Three at centerline from sternum to pelvis		7		Historic
12	n/a			General Collection and Wet Screen		2		Prehistoric

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Indeterminate	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Unknown
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Unknown	Unknown	Wire	Wire	n/a
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Finishing
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Copper Alloy/ Iron Alloy	Clothing	Fastener	Button	Four Hole	2-Piece
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Ceramic	Sandy Paste	Shaft Inclusion	Vessel	Sherd	n/a	n/a
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Ceramic	Sandy and Shell Paste	Shaft Inclusion	Vessel	Sherd	n/a	n/a

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
2	n/a			General Collection and Wet Screen		3	Pre c 1890	Historic
2	n/a			General Collection and Wet Screen		1	Pre c 1890	Historic
2	n/a			General Collection and Wet Screen		1	Pre c 1890	Historic
2	n/a			General Collection and Wet Screen		2	Pre c 1890	Historic
2	n/a			General Collection and Wet Screen		1	Pre c 1890	Historic
2	n/a			General Collection and Wet Screen		3	Pre c 1890	Historic
2	n/a			General Collection and Wet Screen		4	Pre c 1890	Historic
40	n/a			General Collection and Wet Screen		16	Pre c 1890	Historic
40	n/a			General Collection and Wet Screen		19	Pre c 1890	Historic
40	n/a			General Collection and Wet Screen		41	Pre c 1890	Historic
40	n/a			General Collection and Wet Screen		5	Pre c 1890	Historic
40	n/a			General Collection and Wet Screen		2	Pre c 1890	Historic
40	n/a			General Collection and Wet Screen		38	Pre c 1890	Historic
40	n/a			Washing		1		Historic
40	n/a			Dry Screen		1		Historic
30	n/a			General Collection and Wet Screen		2	Pre c 1890	Historic
30	n/a			General Collection and Wet Screen		1	Pre c 1890	Historic
30	n/a			General Collection and Wet Screen		2	Pre c 1890	Historic
30	n/a			General Collection and Wet Screen		22	Pre c 1890	Historic
30	n/a			General Collection and Wet Screen		1	Pre c 1890	Historic
30	n/a			General Collection and Wet Screen		5	Pre c 1890	Historic
30	n/a			General Collection and Wet Screen		25	Pre c 1890	Historic
73	n/a			General Collection and Wet Screen		16	Post c 1900	Historic
73	n/a			General Collection and Wet Screen		13	Post c 1900	Historic
73	n/a			General Collection and Wet Screen		17	Post c 1900	Historic
73	n/a			General Collection and Wet Screen		23	Post c 1900	Historic
73	n/a			“Below pelvis” commingled with fingers		2		Historic
79	n/a			General Collection and Wet Screen		4	Pre c 1890	Historic
79	n/a			General Collection and Wet Screen		32	Pre c 1890	Historic
79	n/a			General Collection and Wet Screen		54	Pre c 1890	Historic
29	n/a			General Collection and Wet Screen		13	Pre c 1890	Historic
29	n/a			General Collection and Wet Screen		16	Pre c 1890	Historic
29	n/a			General Collection and Wet Screen		28	Pre c 1890	Historic
29	n/a			General Collection and Wet Screen		12	Pre c 1890	Historic
53	n/a			General Collection and Wet Screen		29	Pre c 1890	Historic
53	n/a			General Collection and Wet Screen		4	Pre c 1890	Historic
53	n/a			General Collection and Wet Screen		8	Pre c 1890	Historic
53	n/a			General Collection and Wet Screen		5	Pre c 1890	Historic
53	n/a			General Collection and Wet Screen		23	Pre c 1890	Historic
53	n/a			General Collection and Wet Screen		4	Pre c 1890	Historic
53	n/a			General Collection and Wet Screen		28	Pre c 1890	Historic
53	n/a			Pelvis		3		Historic
53	n/a			Pelvis		1		Historic
69	n/a			General Collection and Wet Screen		29	Pre c 1890	Historic
69	n/a			General Collection and Wet Screen		1	Pre c 1890	Historic
69	n/a			General Collection and Wet Screen		37	Pre c 1890	Historic
69	n/a			General Collection and Wet Screen		27	Pre c 1890	Historic
69	n/a			General Collection and Wet Screen		7	Pre c 1890	Historic
52	n/a			General Collection and Wet Screen		59	Pre c 1890	Historic
52	n/a			General Collection and Wet Screen		15	Pre c 1890	Historic
52	n/a			General Collection and Wet Screen		13	Pre c 1890	Historic
13	n/a			Wet Screen and Zone e Combined		2	Pre c 1890	Historic

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Copper Alloy/ Iron Alloy	Clothing	Fastener	Button	Four Hole	2-Piece
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	unknown
Ceramic	Prosser	Clothing	Fastener	Button	Four Hole	Underwear?
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Bone	Bone	Clothing	Fastener	Button	Four Hole	Trouser/ Underwear
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Finishing?
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Finishing?
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
13	n/a			Wet Screen and Zone e Combined		6	Pre c 1890	Historic
13	n/a			Wet Screen and Zone e Combined		8	Pre c 1890	Historic
13	n/a			Wet Screen and Zone e Combined		12	Pre c 1890	Historic
13	n/a			Possibly from disturbance		1	Pre c 1890	Historic
13	n/a			Possibly from disturbance		4	Pre c 1890	Historic
13	n/a			Possibly from disturbance		1	Pre c 1890	Historic
13	n/a			Possibly from disturbance		4	Pre c 1890	Historic
13	n/a			Found during washig		1		Historic
68	n/a			General Collection and Wet Screen		5	Pre c 1890	Historic
68	n/a			General Collection and Wet Screen		15	Pre c 1890	Historic
68	n/a			General Collection and Wet Screen		51	Pre c 1890	Historic
68	n/a			General Collection and Wet Screen		5	Pre c 1890	Historic
95	n/a			Found during washig		1		Historic
95	n/a			General Collection and Wet Screen		1	Pre c 1890	Historic
95	n/a			General Collection and Wet Screen		2	Pre c 1890	Historic
95	n/a			General Collection and Wet Screen		15	Pre c 1890	Historic
95	n/a			General Collection and Wet Screen		16	Pre c 1890	Historic
95	n/a			General Collection and Wet Screen		25	Pre c 1890	Historic
66	n/a			Positionednext to the left hand		3		Historic
66	n/a			At right thoracic rib either side wrists		6		Historic
66	n/a			At right thoracic rib either side wrists		23		Historic
66	n/a			General Collection and Wet Screen		11	Pre c 1890	Historic
66	n/a			General Collection and Wet Screen		6	Pre c 1890	Historic
66	n/a			General Collection and Wet Screen		2	Pre c 1890	Historic
66	n/a			General Collection and Wet Screen		16	Pre c 1890	Historic
66	n/a			General Collection and Wet Screen		9	Pre c 1890	Historic
88	n/a			General Collection and Wet Screen		2	Post c 1900	Historic
88	n/a			General Collection and Wet Screen		2	Post c 1900	Historic
88	n/a			General Collection and Wet Screen		3	Post c 1900	Historic
88	n/a			General Collection and Wet Screen		10	Post c 1900	Historic
88	n/a			General Collection and Wet Screen		5		Historic
88	n/a			General Collection and Wet Screen		1		Historic
88	n/a			General Collection and Wet Screen		9		Historic
88	n/a			General Collection and Wet Screen		1	Pre c 1890	Historic
81	n/a			General Collection and Wet Screen		15	Pre c 1890	Historic
81	n/a			General Collection and Wet Screen		3	Pre c 1890	Historic
81	n/a			General Collection and Wet Screen		2	Pre c 1890	Historic
81	n/a			General Collection and Wet Screen		4	Pre c 1890	Historic
81	n/a			Wall Nails		10	Pre c 1890	Historic
81	n/a			Wall Nails		4	Pre c 1890	Historic
81	n/a			Transverse Beam Nails		22	Pre c 1890	Historic
81	n/a			Transverse Beam Nails		2	Pre c 1890	Historic
81	n/a			Transverse Beam Nails		3	Pre c 1890	Historic
31	n/a			General Collection and Wet Screen		4	Pre c 1890	Historic
31	n/a			General Collection and Wet Screen		5	Pre c 1890	Historic
31	n/a			General Collection and Wet Screen		15	Pre c 1890	Historic
31	n/a			General Collection and Wet Screen		6		Historic
31	n/a			General Collection and Wet Screen		4	Pre c 1890	Historic
31	n/a			General Collection and Wet Screen		36	Pre c 1890	Historic
91	n/a			General Collection and Wet Screen		7	Pre c 1890	Historic
91	n/a			General Collection and Wet Screen		1	Pre c 1890	Historic
91	n/a			General Collection and Wet Screen		24	Pre c 1890	Historic

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Lead Alloy	Burial Inclusion	Projectile	Shot	Shotgun Pellet	Hand-Cast
Metal	Brass-Plated Iron Alloy	Clothing	Fastener	Buckle	Recandular, Single D-Frame	Single Hook Pivot/pants?
Metal	Iron Alloy	Clothing	Fastener	Buckle	Recantgular?	unknown Hooks
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Indeterminate	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Indeterminate	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Indeterminate	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Indeterminate	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
91	n/a			General Collection and Wet Screen		46	Pre c 1890	Historic
91	n/a			General Collection and Wet Screen		4	Pre c 1890	Historic
91	n/a			General Collection and Wet Screen		4	Pre c 1890	Historic
91	n/a			General Collection and Wet Screen		1		Historic
51	n/a			Pelvis		3		Historic
51	n/a			Washing		1		Historic
51	n/a			General Collection and Wet Screen		6		Historic
51	n/a			General Collection and Wet Screen		23		Historic
51	n/a			General Collection and Wet Screen		28		Historic
51	n/a			General Collection and Wet Screen		14		Historic
51	n/a			General Collection and Wet Screen		18		Historic
51	n/a			General Collection and Wet Screen		8		Historic
71	n/a			General Collection		10		Historic
71	n/a			General Collection		17		Historic
71	n/a			General Collection		5		Historic
71	n/a			General Collection		4		Historic
71	n/a			General Collection		5		Historic
72	n/a			General Collection and Wet Screen		6		Historic
72	n/a			General Collection and Wet Screen		17		Historic
72	n/a			General Collection and Wet Screen		19		Historic
72	n/a			General Collection and Wet Screen		23		Historic
72	n/a			General Collection and Wet Screen		6		Historic
72	n/a			General Collection and Wet Screen		2		Historic
72	n/a			General Collection and Wet Screen		2		Historic
25	n/a			General Collection and Wet Screen		34		Historic
25	n/a			General Collection and Wet Screen		3		Historic
25	n/a			General Collection and Wet Screen		4		Historic
25	n/a			General Collection and Wet Screen		18		Historic
25	n/a			General Collection and Wet Screen		37		Historic
25	n/a			General Collection and Wet Screen		22		Historic
65	n/a			General Collection and Wet Screen		19		Historic
65	n/a			General Collection and Wet Screen		19		Historic
65	n/a			General Collection and Wet Screen		5		Historic
65	n/a			General Collection and Wet Screen		8		Historic
65	n/a			General Collection and Wet Screen		21		Historic
32	n/a			General Collection and Wet Screen		10		Historic
32	n/a			General Collection and Wet Screen		27		Historic
32	n/a			General Collection and Wet Screen		28		Historic
32	n/a			General Collection and Wet Screen		2		Historic
32	n/a			General Collection and Wet Screen		17		Historic
32	n/a			General Collection and Wet Screen		19		Historic
63	n/a			General Collection and Wet Screen		11		Historic
63	n/a			General Collection and Wet Screen		10		Historic
63	n/a			General Collection and Wet Screen		19		Historic
63	n/a			General Collection and Wet Screen		5		Historic
63	n/a			General Collection and Wet Screen		1		Historic
63	n/a			General Collection and Wet Screen		20		Historic
63	n/a			General Collection and Wet Screen		3		Historic
63	n/a			General Collection and Wet Screen		1		Historic
28	n/a			General Collection and Wet Screen		16		Historic
28	n/a			General Collection and Wet Screen		4		Historic
28	n/a			General Collection and Wet Screen		4		Historic

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Glass	Milk Glass	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Clothing	Fastener	Button	Four Hole	2-Piece, trouser
Metal	Lead Alloy	Burial Inclusion	Projectile	Shot	Shotgun Pellet	Hand-Cast
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Lead Alloy	Burial Inclusion	Projectile	Shot	Shotgun Pellet	Hand-Cast
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
28	n/a			General Collection and Wet Screen		21		Historic
28	n/a			General Collection and Wet Screen		14		Historic
46	n/a			General Collection and Wet Screen		26		Historic
46	n/a			General Collection and Wet Screen		5		Historic
46	n/a			General Collection and Wet Screen		36		Historic
46	n/a			General Collection and Wet Screen		39		Historic
85	n/a			General Collection and Wet Screen		8		Historic
85	n/a			General Collection and Wet Screen		3		Historic
85	n/a			General Collection and Wet Screen		3		Historic
85	n/a			General Collection and Wet Screen		14		Historic
89	n/a			General Collection and Wet Screen		3		Historic
89	n/a			General Collection and Wet Screen		6		Historic
89	n/a			General Collection and Wet Screen		1		Historic
89	n/a			Disturbed Burial Fill		1		Historic
89	n/a			Disturbed Burial Fill		1		Historic
89	n/a			Disturbed Burial Fill		1		Historic
59	n/a			General Collection and Wet Screen		19		Historic
59	n/a			General Collection and Wet Screen		7		Historic
59	n/a			General Collection and Wet Screen		45		Historic
59	n/a			General Collection and Wet Screen		37		Historic
59	n/a			General Collection and Wet Screen		3		Historic
59	n/a			General Collection and Wet Screen		3		Historic
59	n/a			Wet Screen		2		Historic
58	n/a			General Collection and Wet Screen		20		Historic
58	n/a			General Collection and Wet Screen		6		Historic
58	n/a			General Collection and Wet Screen		40		Historic
58	n/a			General Collection and Wet Screen		13		Historic
58	n/a			General Collection and Wet Screen		39		Historic
58	n/a			General Collection and Wet Screen		4		Historic
58	n/a			General Collection and Wet Screen		1		Historic
97	n/a			General Collection		20		Historic
97	n/a			General Collection		7		Historic
97	n/a			General Collection		1		Historic
97	n/a			General Collection		2		Historic
67	n/a			General Collection and Wet Screen		10		Historic
67	n/a			General Collection and Wet Screen		5		Historic
67	n/a			General Collection and Wet Screen		10		Historic
67	n/a			General Collection and Wet Screen		27		Historic
67	n/a			General Collection and Wet Screen		1		Historic
96	n/a			General Collection		10		Historic
96	n/a			General Collection		15		Historic
96	n/a			General Collection		6		Historic
96	n/a			General Collection		3		Historic
96	n/a			General Collection		2		Historic
96	n/a			Right hand, fourth phalanx		1		Historic
1	n/a			General Collection		1		Historic
1	n/a			General Collection		10		Historic
1	n/a			General Collection		3		Historic
1	n/a			General Collection		8		Historic
1	n/a			Possibly Associated		3		Historic
1	n/a			Possibly Associated		3		Historic
1	n/a			Possibly Associated		1		Historic
1	n/a			Possibly Associated		1		Historic
1	n/a			Possibly Associated		1		Historic

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Finiishing
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Copper Alloy	Personal Effect	Jewelry	Ring	Band	Slightly Domed
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Finiishing
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Shell	Shell	Clothing	Fastener	Button	Two Hole	
Shell	Shell	Clothing	Fastener	Button	Two Hole	
Plastic	Bakelite?	Clothing	Fastener	Button	Two Hole	

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
1	n/a			Possibly Associated		1		Historic
16	n/a			Possibly Associated from Wet Screen		1		Historic
16	n/a			Possibly Associated from Wet Screen		1		Historic
16	n/a			Possibly Associated from Wet Screen		2		Historic
16	n/a			Possibly Associated from Wet Screen		2		Historic
16	n/a			Possibly Associated from Wet Screen		2		Historic
16	n/a			Possibly Associated from Wet Screen		4		Historic
16	n/a			Possibly Associated		1		Historic
84	n/a			Possibly Associated		4		Historic
84	n/a			Possibly Associated		3		Historic
84	n/a			Possibly Associated		2		Historic
84	n/a			Possibly Associated		2		Historic
84	n/a			Possibly Associated		4		Historic
36	n/a			General Collection and Wet Screen		1		Historic
36	n/a			General Collection and Wet Screen		17		Historic
36	n/a			General Collection and Wet Screen		27		Historic
36	n/a			General Collection and Wet Screen		1		Historic
36	n/a			General Collection and Wet Screen		1		Historic
36	n/a			1 located left side thorasic; 3 front of pelvis		8		Historic
61	n/a			General Collection and Wet Screen		24		Historic
61	n/a			General Collection and Wet Screen		35		Historic
61	n/a			General Collection and Wet Screen		43		Historic
61	n/a			General Collection and Wet Screen		9		Historic
61	n/a			General Collection and Wet Screen		6		Historic
61	n/a			General Collection and Wet Screen		3		Historic
92	n/a			General Collection and Wet Screen		18		Historic
92	n/a			General Collection and Wet Screen		17		Historic
92	n/a			General Collection and Wet Screen		4		Historic
92	n/a			2 in pelvis and 1 in wet screen		1		Historic
92	n/a			2 in pelvis and 1 in wet screen		1		Historic
92	n/a			2 in pelvis and 1 in wet screen		1		Historic
75	n/a			General Collection and Wet Screen		1		Historic
75	n/a			General Collection and Wet Screen		13		Historic
75	n/a			General Collection and Wet Screen		23		Historic
75	n/a			General Collection and Wet Screen		16		Historic
75	n/a			General Collection and Wet Screen		19		Historic
75	n/a			General Collection and Wet Screen		8		Historic
70	n/a			General Collection and Wet Screen		6		Historic
70	n/a			General Collection and Wet Screen		7		Historic
70	n/a			General Collection and Wet Screen		9		Historic
70	n/a			General Collection and Wet Screen		12		Historic
70	n/a			General Collection and Wet Screen		5		Historic
15	n/a			General Collection and Wet Screen		3		Historic
15	n/a			General Collection and Wet Screen		11		Historic
15	n/a			General Collection and Wet Screen		29		Historic
27	n/a			General Collection		6		Historic
27	n/a			General Collection		11		Historic
27	n/a			General Collection		13		Historic
27	n/a			General Collection		9		Historic
27	n/a			Right innominate		1		Historic
45	n/a			General Collection and Wet Screen		16		Historic

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Metal	Lead Alloy	Possible Burial Inclusion	Projectile	Shot	Shotgun Pellet	Machine-Cast?
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Ceramic	Prosser	Clothing	Fastener	Button	Two Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Bone	Bone	Clothing	Fastener	Button	Four Hole	Trouser
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Copper Alloy	Clothing	Fastener	Button	Four Hole	1-Piece
Metal	Copper Alloy/ Iron Alloy	Clothing	Fastener	Button	Four Hole	2-Piece
Metal	Copper Alloy/ Iron Alloy	Clothing	Fastener	Button	Thread-Bar	2-Piece
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Copper Alloy	Clothing	Fastener	Button	Four Hole	1-Piece
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
45	n/a			General Collection and Wet Screen		13		Historic
45	n/a			General Collection and Wet Screen		29		Historic
45	n/a			General Collection and Wet Screen		15		Historic
45	n/a			General Collection and Wet Screen		3		Historic
56	n/a			General Collection and Wet Screen		21		Historic
56	n/a			General Collection and Wet Screen		11		Historic
56	n/a			General Collection and Wet Screen		3		Historic
56	n/a			General Collection and Wet Screen		11		Historic
56	n/a			Right thoracic rib cage, left arm		1		Historic
82	n/a			General Collection and Wet Screen		27		Historic
82	n/a			General Collection and Wet Screen		1		Historic
82	n/a			General Collection and Wet Screen		5		Historic
82	n/a			General Collection and Wet Screen		1		Historic
82	n/a			General Collection and Wet Screen		3		Historic
82	n/a			General Collection and Wet Screen		4		Historic
82	n/a			General Collection and Wet Screen		3		Historic
50	n/a			General Collection and Wet Screen		20		Historic
50	n/a			General Collection and Wet Screen		23		Historic
50	n/a			General Collection and Wet Screen		10		Historic
50	n/a			General Collection and Wet Screen		3		Historic
10	n/a			General Collection and Wet Screen		2		Historic
10	n/a			General Collection and Wet Screen		4		Historic
10	n/a			General Collection and Wet Screen		2		Historic
10	n/a			General Collection and Wet Screen		24		Historic
10	n/a			General Collection and Wet Screen		19		Historic
10	n/a			General Collection and Wet Screen		5		Historic
34	n/a			General Collection and Wet Screen		10		Historic
34	n/a			General Collection and Wet Screen		4		Historic
34	n/a			General Collection and Wet Screen		21		Historic
34	n/a			General Collection and Wet Screen		14		Historic
34	n/a			General Collection and Wet Screen		2		Historic
34	n/a			General Collection and Wet Screen		1		Historic
64	n/a			General Collection and Wet Screen		18		Historic
64	n/a			General Collection and Wet Screen		5		Historic
64	n/a			General Collection and Wet Screen		18		Historic
64	n/a			General Collection and Wet Screen		6		Historic
64	n/a			General Collection and Wet Screen		4		Historic
64	n/a			General Collection and Wet Screen		1		Historic
64	n/a			General Collection and Wet Screen		11		Historic
26	n/a			General Collection and Wet Screen		36		Historic
26	n/a			General Collection and Wet Screen		14		Historic
26	n/a			General Collection and Wet Screen		6		Historic
26	n/a			General Collection and Wet Screen		6		Historic
26	n/a			General Collection and Wet Screen		1		Historic
38	n/a			General Collection and Wet Screen		33		Historic
38	n/a			General Collection and Wet Screen		19		Historic
38	n/a			General Collection and Wet Screen		16		Historic
38	n/a			Found mostly in right torso		9		Historic
49	n/a			General Collection		1		Historic
49	n/a			General Collection		2		Historic
49	n/a			Disturbed Burial Fill		4		Historic
49	n/a			Disturbed Burial Fill		4		Historic

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Clothing	Fastener	Buckle	Recangular	End Pivot/Single Hook
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Ceramic	Prosser	Clothing	Fastener	Button	Four Hole	
Ceramic	Prosser	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Lead Alloy	Burial Inclusion	Projectile	Shot	Shotgun Pellet	Hand-Cast
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
49	n/a			Disturbed Burial Fill		1		Historic
49	n/a			Disturbed Burial Fill		1		Historic
83	n/a			General Collection		19		Historic
83	n/a			General Collection		14		Historic
83	n/a			General Collection		24		Historic
83	n/a			General Collection		4		Historic
83	n/a			General Collection		19		Historic
54	n/a			General Collection and Wet Screen		16		Historic
54	n/a			General Collection and Wet Screen		2		Historic
54	n/a			General Collection and Wet Screen		33		Historic
54	n/a			General Collection and Wet Screen		8		Historic
54	n/a			General Collection and Wet Screen		29		Historic
54	n/a			General Collection and Wet Screen		8		Historic
23	n/a			General Collection and Wet Screen		29		Historic
23	n/a			General Collection and Wet Screen		13		Historic
23	n/a			General Collection and Wet Screen		21		Historic
23	n/a			General Collection and Wet Screen		4		Historic
23	n/a			General Collection and Wet Screen		4		Historic
23	n/a			General Collection and Wet Screen		1		Historic
23	n/a			one found by left forearm near elbow		4		Historic
23	n/a			Burial Fill		9		Prehistoric
23	n/a			Burial Fill		1		Prehistoric
19	n/a			General Collection and Wet Screen		26		Historic
19	n/a			General Collection and Wet Screen		10		Historic
19	n/a			General Collection and Wet Screen		5		Historic
19	n/a			General Collection and Wet Screen		14		Historic
19	n/a			Disturbance?		1		Historic
42	n/a			General Collection		19		Historic
42	n/a			General Collection		10		Historic
42	n/a			General Collection		24		Historic
42	n/a			General Collection		36		Historic
42	n/a			General Collection		1		Historic
62	n/a			General Collection		11		Historic
62	n/a			General Collection		23		Historic
62	n/a			General Collection		11		Historic
62	n/a			General Collection		82		Historic
62	n/a			General Collection		5		Historic
62	n/a			General Collection		39		Historic
62	n/a			General Collection		1		Historic
60/24	n/a			General Collection and Wet Screen		5		Historic
60/24	n/a			General Collection and Wet Screen		10		Historic
60/24	n/a			General Collection and Wet Screen		20		Historic
60/24	n/a			General Collection and Wet Screen		17		Historic
60/24	n/a			General Collection and Wet Screen		31		Historic
60/24	n/a			Pelvis		1		Historic
60/24	n/a			From right and left feet		1		Historic
60/24	n/a			From right and left feet		1		Historic
99	n/a			General Collection and Wet Screen		8		Historic
99	n/a			General Collection and Wet Screen		2		Historic
99	n/a			General Collection and Wet Screen		2		Historic
99	n/a			General Collection and Wet Screen		3		Historic
99	n/a			General Collection and Wet Screen		12		Historic

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Finishing
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Ceramic	Sandy and Shell Paste	Shaft Inclusion	Vessel	Sherd	n/a	n/a
Lithic	Chert	Shaft Inclusion	Tool	Flake	Informal	Worked
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Disturbance	Can Crimp	n/a	n/a	n/a
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Ceramic	Stoneware	Personal Effect	Personal Item	Tobacco Pipe	Molded	Brown Slip/Salt Glazed?
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Lead Alloy	Burial Inclusion	Projectile	Shot	Shotgun Pellet	Hand-Cast
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Bone	Bone	Clothing	Fastener	Button	Four Hole	Underwear?
Ceramic	Prosser	Clothing	Fastener	Button	Four Hole	Long Underwear
Ceramic	Prosser	Clothing	Fastener	Button	Two Hole	Long Underwear
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
99	n/a			General Collection and Wet Screen		5		Historic
99	n/a			General Collection and Wet Screen		38		Historic
99	n/a			Wet Screen		1		Historic
99	n/a			Wet Screen		1		Historic
99	n/a			Wet Screen		1		Historic
99	n/a			Superior to L os coxa		1		Historic
99	n/a			1 at left ribs and 1 inferior to left clavicle		3		Historic
18	n/a			General Collection and Wet Screen		18		Historic
18	n/a			General Collection and Wet Screen		29		Historic
18	n/a			General Collection and Wet Screen		19		Historic
18	n/a			General Collection and Wet Screen		1		Historic
18	n/a			General Collection and Wet Screen		1		Historic
100	n/a			General Collection and Wet Screen		4		Historic
100	n/a			General Collection and Wet Screen		8		Historic
100	n/a			General Collection and Wet Screen		1		Historic
100	n/a			General Collection and Wet Screen		5		Historic
100	n/a			General Collection and Wet Screen		3		Historic
100	n/a			General Collection and Wet Screen		1		Historic
100	n/a			General Collection and Wet Screen		1		Historic
94	n/a			General Collection and Wet Screen		5		Historic
94	n/a			General Collection and Wet Screen		22		Historic
94	n/a			General Collection and Wet Screen		21		Historic
94	n/a			General Collection and Wet Screen		18		Historic
39	n/a			General Collection and Wet Screen		6		Historic
39	n/a			General Collection and Wet Screen		32		Historic
39	n/a			General Collection and Wet Screen		18		Historic
39	n/a			General Collection and Wet Screen		29		Historic
39	n/a			General Collection and Wet Screen		1		Historic
39	n/a			Upper thorax and under skull		2		Historic
101	n/a			General Collection and Wet Screen		4		Historic
101	n/a			General Collection and Wet Screen		1		Historic
101	n/a			General Collection and Wet Screen		2		Historic
101	n/a			General Collection and Wet Screen		4		Historic
101	n/a			General Collection and Wet Screen		3		Historic
101	n/a			General Collection and Wet Screen		2		Historic
101	n/a			General Collection and Wet Screen		5		Historic
101	n/a			General Collection and Wet Screen		3		Historic
101	n/a			General Collection and Wet Screen		1		Historic
101	n/a			General Collection		2		Historic
22	n/a			General Collection and Wet Screen		1		Historic
22	n/a			General Collection and Wet Screen		4		Historic
22	n/a			General Collection and Wet Screen		42		Historic
22	n/a			General Collection and Wet Screen		29		Historic
22	n/a			General Collection and Wet Screen		6		Historic
22	n/a			General Collection and Wet Screen		23		Historic
22	n/a			General Collection and Wet Screen		4		Historic
57	n/a			General Collection and Wet Screen		31		Historic
57	n/a			General Collection and Wet Screen		27		Historic
57	n/a			General Collection and Wet Screen		14		Historic
20	n/a			Associated Nails		2		Historic
20	n/a			Associated Nails		1		Historic
20	n/a			Associated Nails		1		Historic
20	n/a			Wet Screen - possibly associated		1		Historic

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Clothing	Fastener	Button	Thread-Bar	2-Piece
Metal	Iron Alloy	Clothing	Fastener	Button	Thread-Bar	2-Piece
Glass	Milk Glass	Clothing	Fastener	Button	Four Hole	
Glass	Milk Glass	Clothing	Fastener	Button	Four Hole	
Metal	Copper Alloy	Clothing	Fastener	Button	Rivet	2-Piece
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Clothing	Fastener	Button	Four Hole	2-Piece/shirt
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Wire	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Indeterminate	Unknown
Metal	Copper Alloy/ Iron Alloy	Clothing	Fastener	Button	Thread-Bar	2-Piece, trouser
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Finishing
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Clothing	Fastener	Button	Four Hole	2-Piece, shirt
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
20	n/a			Wet Screen - possibly associated		3		Historic
20	n/a			Wet Screen - possibly associated		2		Historic
55	n/a			General Collection and Wet Screen		30		Historic
55	n/a			General Collection and Wet Screen		6		Historic
55	n/a			General Collection and Wet Screen		25		Historic
55	n/a			General Collection and Wet Screen		27		Historic
55	n/a			General Collection and Wet Screen		3		Historic
55	n/a			General Collection and Wet Screen		1		Historic
37	n/a			General Collection and Wet Screen		13		Historic
37	n/a			General Collection and Wet Screen		13		Historic
37	n/a			General Collection and Wet Screen		7		Historic
37	n/a			Pelvis		3		Historic
37	n/a			Pelvis		2		Historic
37	n/a			Pelvis		1		Historic
37	n/a			Pelvis		3		Historic
43	n/a			General Collection and Wet Screen		33		Historic
43	n/a			General Collection and Wet Screen		11		Historic
43	n/a			General Collection and Wet Screen		24		Historic
43	n/a			General Collection and Wet Screen		4		Historic
43	n/a			General Collection and Wet Screen		2		Historic
21	n/a			General Collection and Wet Screen		7		Historic
21	n/a			General Collection and Wet Screen		21		Historic
21	n/a			General Collection and Wet Screen		33		Historic
21	n/a			General Collection and Wet Screen		3		Historic
n/a	1	n/a	n/a	General Collection		1		Historic
n/a	2	n/a	n/a	General Collection		1		Historic
n/a	3	n/a	n/a	General Collection		1		Historic
n/a	4	n/a	n/a	General Collection		1		Historic
n/a	5	n/a	n/a	General Collection		1		Historic
n/a	6	n/a	n/a	General Collection		1		Historic
n/a	7	n/a	n/a	General Collection		1		Historic
n/a	8	n/a	n/a	General Collection	1981	1		Modern
n/a	9	n/a	n/a	General Collection		1		Historic
n/a	10	n/a	n/a	General Collection		1	c 1901 - 1915	Historic
n/a	11	n/a	n/a	General Collection		1	1938 or 1948	Historic
n/a	12	n/a	n/a	General Collection		1		Historic
n/a	13	n/a	n/a	General Collection	1923+	1	1923-1990	Historic
n/a	14	n/a	n/a	General Collection	1905	1		Historic
n/a	15	n/a	n/a	General Collection		1	1871-1898	Historic
n/a	16	n/a	n/a	General Collection		1		Historic
n/a	17	n/a	n/a	General Collection		1	pre c 1930	Historic
n/a	18	n/a	n/a	General Collection	1905	1		Historic
n/a	19	n/a	n/a	General Collection	1905	1		Historic

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Metal	Iron Alloy	Clothing	Fastener	Button	Thread-Bar?	2-Piece
Metal	Iron Alloy	Clothing	Fastener	Button	unknown	2-Piece
Metal	Iron Alloy	Clothing	Fastener	Button	Rivet?	n/a
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Unknown
Bone	Bone	Clothing	Fastener	Button	Four Hole	
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Box
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	unknown
Metal	Copper Alloy/ Iron Alloy	Clothing	Fastener	Button	Four Hole	2-Piece
Metal	Iron Alloy	Agricultural	Tram for cane	Tie Plate	n/a	n/a
Metal	Iron Alloy	Agricultural	Tram for cane	Spike	n/a	n/a
Metal	Iron Alloy	Agricultural	Tram for cane	Spike	n/a	n/a
Metal	Iron Alloy	Agricultural	Tram for cane	Spike	n/a	n/a
Metal	Iron Alloy	Agricultural	Tram for cane	Spike	n/a	n/a
Metal	Iron Alloy	Unknown	Unknown	Double Wire	Twisted	n/a
Metal	Iron Alloy	Unknown	Unknown	Fitting	U-Shaped	n/a
Metal	Iron Alloy	Utilities	Pipe	Joint Restrainer	PVC Pipe Restrainer	“CHINA /12 in / STAR
Ceramic	Ironstone	Domestic	Serving and Consumption	Mug	Handleless	Undecorated
Ceramic	Ironstone	Domestic	Serving and Consumption	Indeterminate	Flatware	“HOMER LAUGHLIN/ HOTEL”
Glass	Glass	Domestic	Storage and Prep	Jar, Packer	External Continuous Thread	Shoulderless
Glass	Glass	Domestic	Unknown	Bottle	Large Bead	n/a
Glass	Glass	Domestic	Beverage	Bottle, Alcohol	Whiskey?	Ovoid
Glass	Glass	Unknown	Unknown	Bottle	n/a	Rect, rounded corners
Metal	Copper Alloy	Domestic	Serving and Consumption	Spoon, Serving	Undecorated	“SIMPSON NICKEL SILVER”
Metal	Iron Alloy	Domestic	Serving and Consumption	Spoon, Serving	n/a	n/a
Glass	Glass	Medicinal	Medicinal	Bottle	Bead, Tooled	Round with Wide Mouth
Glass	Glass	Medicinal	Medicinal	Bottle	n/a	Rect, rounded corners
Glass	Glass	Domestic	Beverage	Bottle, Alcohol	Whiskey/ brandy finish	Ovoid

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
n/a	20	n/a	n/a	General Collection	1901	1	c 1927	Historic
n/a	21	n/a	n/a	General Collection	c 1900	1	c 1900 - 1918	Historic
n/a	22	n/a	n/a	General Collection	c 1900	1	c 1900 - 1913	Historic
n/a	23	n/a	n/a	General Collection	1923	1	1923 +	Historic
n/a	24	n/a	n/a	General Collection	1923	1	1923 +	Historic
n/a	25	n/a	n/a	General Collection	1902	1	1902 +	Historic
n/a	26	n/a	n/a	General Collection	1916	2	1916 - 1928	Historic
n/a	27	n/a	n/a	General Collection	1910	1	1910 - 1928	Historic
n/a	28	n/a	n/a	General Collection	1910	2	1910 - 1928	Historic
n/a	29	n/a	n/a	General Collection	1910	1	1910 - 1928	Historic
n/a	30	n/a	n/a	General Collection		1		Historic
n/a	31	n/a	n/a	General Collection	1902	1	1902 - 1929	Historic
n/a	32	n/a	n/a	General Collection		2		Historic
n/a	33	n/a	n/a	General Collection		1		Historic
n/a	34	n/a	n/a	General Collection		1		Historic
n/a	35	n/a	n/a	General Collection		1		Historic
n/a	36	n/a	n/a	General Collection		1		Historic
n/a	37	n/a	n/a	General Collection		1		Historic
n/a	38	n/a	n/a	General Collection		1		Historic
n/a	39	n/a	n/a	General Collection		1		Historic
n/a	40	n/a	n/a	General Collection		1		Historic
n/a	41	n/a	n/a	General Collection		1		Historic
n/a	42	n/a	n/a	General Collection		1		Historic
n/a	43	n/a	n/a	General Collection		1		Historic
n/a	44	n/a	n/a	General Collection		1		Historic
n/a	45	n/a	n/a	General Collection		1		Historic
n/a	46	n/a	n/a	General Collection		1		Historic
n/a	47	n/a	n/a	General Collection		1		Historic
n/a	48	n/a	n/a	General Collection		1		Historic
n/a	49	n/a	n/a	General Collection		1		Historic
n/a	50	n/a	n/a	General Collection		1		Historic
n/a	51	n/a	n/a	General Collection		1	1890+	Historic
n/a	52	n/a	n/a	General Collection		4		Historic
n/a	53	n/a	n/a	General Collection		1		Historic
n/a	54	n/a	n/a	General Collection		1		Historic
n/a	55	n/a	n/a	General Collection		1		Historic
n/a	56	n/a	n/a	General Collection		1		Historic
n/a	57	n/a	n/a	General Collection		1		Historic
n/a	58	n/a	n/a	General Collection		1		Historic
n/a	59	n/a	n/a	General Collection		1		Historic
n/a	60	n/a	n/a	General Collection		1		Historic
n/a	61	n/a	n/a	General Collection		1		Historic
n/a	62	n/a	n/a	General Collection		1		Historic
n/a	63	n/a	n/a	General Collection		1		Historic

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Brick	Brick	Architectural	Structural	Brick	Firebrick	“ST.LOUIS/V & F.B.CO.”
Brick	Brick	Architectural	Structural	Brick	Brick	“ATLA(S)”
Brick	Brick	Architectural	Structural	Brick	Brick	“BUTLER”
Brick	Brick	Architectural	Structural	Brick	Brick	“FER(RIS)”
Brick	Brick	Architectural	Structural	Brick	Brick	“FERRIS”
Brick	Brick	Architectural	Structural	Brick	Brick	“(TE)XAS”
Brick	Brick	Architectural	Structural	Brick	Brick	“GROESBECK”
Brick	Brick	Architectural	Structural	Brick	Brick	“STANDARD”
Brick	Brick	Architectural	Structural	Brick	Brick	“STANDARD”
Brick	Brick	Architectural	Structural	Brick	Brick	“STAND(ARD)”
Brick	Brick	Architectural	Structural	Brick	Brick	“…WARD”
Brick	Brick	Architectural	Structural	Brick	Brick	“PALMER”
Metal	Iron Alloy	Tools	Tools	File	Hand/Flat/ Mill	Rectangular
Metal	Iron Alloy	Tools	Tools	File	Hand/Flat/ Mill	Rectangular
Metal	Iron Alloy	Heating / Cooking	Cast Iron Stove	Lid/Hot Plate	n/a	circular
Metal	Iron Alloy	Tools	Tools	Axe Head	Single Bit	American Felling Axe
Metal	Iron Alloy	Tools	Tools	Hoe Head	Draw Hoe	Eye Hoe
Metal	Iron Alloy	Tools	Tools	Hoe Head	Draw Hoe	Eye Hoe
Metal	Iron Alloy	Tools	Fastener	Machine Bolt	Square Head	n/a
Metal	Iron Alloy	Tools	Tools	Chain	Flat Links	2 sizes of links
Metal	Iron Alloy	Tools	Tools	Wrench	Spanner	n/a
Metal	Iron Alloy	Tools	Tools	Chain	Flat Links	Swivel and Hook
Metal	Iron Alloy	Tools	Tools	Chain	Flat Links	Split
Metal	Iron Alloy	Tools	Tools	Chain	Flat Links	Mid Swivel/Wire Hook
Metal	Iron Alloy	Tools	Tools	Chain	Heavy Oval Links	End Loop
Metal	Iron Alloy	Tools	Tools	Chain	Flat Links	Swivel
Metal	Iron Alloy	Tools	Tools	Chain	Flat Links	n/a
Metal	Iron Alloy	Tools	Tools	Chain	Oval Links	n/a
Metal	Iron Alloy	Tools	Tools	Chain	Oval Links	with small end ring
Metal	Iron Alloy	Tools	Tools	Ring	n/a	n/a
Metal	Iron Alloy	Tools	Tools	Pry Bar	Flat Tip	n/a
Metal	Iron Alloy	Tools	Fastener	Nail	Wire	Common
Metal	Iron Alloy	Tools	Fastener	Nail	Wire	Common
Metal	Iron Alloy	Tools	Fastener	Nail	Wire	Common
Metal	Iron Alloy	Tools	Fastener	Nail	Wire	Common
Metal	Iron Alloy	Tools	Fastener	Nail	Wire	Common
Metal	Iron Alloy	Tools	Fastener	Nail	Wire	Common
Metal	Iron Alloy	Tools	Tools	Stake	Cylindrical	Hammered Round Head
Metal	Iron Alloy	Tools	Tools	Pipe	n/a	n/a
Metal	Iron Alloy	Agricultural	Horse Tack	Horse Shoe	Cresecent	n/a
Metal	Iron Alloy	Tools	Machinery	Wind mill shaft	one end threaded ID, other OD with square nut	n/a
Metal	Iron Alloy	Tools	Machinery	Cast Iron Fragment	n/a	n/a
Metal	Iron Alloy	Agricultural	Machinery	Sodbuster	n/a	n/a
Metal	Iron Alloy/ Copper Alloy	Tools	Pipe	Pipe T-Fitting	n/a	n/a

Burial No.	Lot No.	Unit	Poss. Affilated Burial	Provenience	TPQ	No. of Specimens	Summary Date	Era/Phase
n/a	64	M	n/a	n/a		6		Historic
n/a	64	M	n/a	n/a	1895	4	1895-mid 1920s	Historic
n/a	64	M	n/a	n/a		6	c. 1890 - 1920	Historic
n/a	64	M	n/a	n/a		1		Historic
n/a	64	M	n/a	n/a		1		Historic
n/a	64	M	n/a	n/a		1		Historic
n/a	65	n/a		n/a		1	c. 1880 - 1940	Historic
n/a	65	n/a		n/a		1		Historic
n/a	66	Units	98	General Collection	1940	1	1940 - 1960	Historic
n/a	66	Units	98	General Collection		1		Historic
n/a	66	Units	98	General Collection		1	1880s - 1920	Historic
n/a	66	Units	98	General Collection		1	1880s - 1920	Historic
n/a	67	Trash Pile	n/a	General Collection		1	c. 1900 - 1912	Historic
n/a	67	Trash Pile	n/a	General Collection		1		Historic
n/a	67	Trash Pile	n/a	General Collection		1		Historic
n/a	67	Trash Pile	n/a	General Collection		1		Historic
n/a	68	M	n/a	n/a	1889	1	1889 - c. 1960	Historic
n/a	68	M	n/a	n/a		1		Historic
n/a	68	M	n/a	n/a		2		Historic
n/a	68	M	n/a	n/a		1		Historic
n/a	68	M	n/a	n/a		1		Historic
n/a	68	M	n/a	n/a		4		Historic
n/a	68	M	n/a	n/a		5		Historic
n/a	68	M	n/a	n/a		1		Historic
n/a	69	O	Asso. w/ B-20?	1		1		Historic
n/a	69	O	Asso. w/ B-20?	1		1		Historic
n/a	70	O	Asso. w/ B-20?	1		1		Historic
n/a	70	O	Asso. w/ B-20?	1		1		Historic
n/a	71	P	Asso. w/ B-20?	1		1		Historic
n/a	72	n/a		West of Brick Structure		1		Historic
n/a	73	n/a	1	General Collection		1		Historic

Material	Specific Material (Primary)	Category	Sub-Category	Item/Item Unit	Type	Sub Type
Glass	Glass	Healthcare	Medicinal	Bottle, Patent Medicine?	n/a	Rect, canted corners
Glass	Glass	Unknown	Unknown	Bottle	n/a	Rect, rounded corners
Glass	Glass	Leisure	Liquor	Bottle	Tooled-Brandy with reinforced almost external thread	swirled neck; short squat
Glass	Glass	Medicinal	Medicinal	Bottle, Apothocary?	Unknown - Wide Mouth Patent	likely round
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Common
Metal	Gold-Plated?/ Copper Alloy	Personal Effect?	Jewelry?	Stick Pin / Wire Fastener	Wire	U-shaped wire, prongs
Glass	Glass	Medicinal	Medicinal	Bottle	n/a	n/a
Plastic	Bakelite?	Medicinal?	Medicinal?	Syringe Plunger?	n/a	n/a
Glass	Glass	Domestic	Food Storage	Jar	n/a	Round
Ceramic	Porcelain	Architectural	Electrical	Insulator	Pin Type	Brown Glazed
Glass	Glass	Medicinal	Medicinal	Bottle, Apothocary?	Bead, Wide Mouth, Applied and Tooled	likely round
Glass	Glass	Domestic	Vessel	Bottle	Brandy, Tooled	likely oval
Glass	Glass	Domestic	Beverage	Coffee Dispenser Jar	upside down Ball Mason Jar	round
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	Common
Metal	Lead Alloy	Unknown	Unknown	Molten Lead	n/a	n/a
Metal	Iron Alloy	Architectural	Architectural Hardware	Door Knob	Undecorated, Round	Threaded, 2 set screws
Metal	Iron Alloy	Domestic	Food Storage	Sardine Key	n/a	n/a
Glass	Glass	Domestic	Unknown	Bottle	Unknown	Flat Round
Glass	Glass	Domestic	Beverage	Bottle	Tooled - Brandy	n/a
Glass	Glass	Domestic	Medicinal	Bottle	Tooled & Applied - Prescription	n/a
Glass	Glass	Domestic	Unknown	Jar	External Continuous Thread	n/a
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Cut	n/a
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Wire	n/a
Metal	Copper Alloy	Clothing	Fastener	Safety Pin	Standard Sheath	n/a
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Cut	n/a
Bone	Bone	Clothing	Fastener	Button	Four Hole	n/a
Metal	Iron Alloy	Burial Container Hardware	Fastener	Nail	Cut	n/a
Metal	Iron Alloy	Burial Container Hardware?	Fastener	Nail	Cut	n/a
Shell	Shell	Clothing	Fastener	Button	Two Hole	n/a
Wood	Wood	Entertainment	Gaming	Die	Cube	Left-Handed
Bone	Bone	Clothing	Fastener	Button	Four Hole	n/a

6.7 REFERENCES CITED, CHAPTERS 1 THROUGH 6

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7.0 HISTORICAL CONTEXT AND ARCHIVAL RESEARCH

7.1 INTRODUCTION

The Bullhead Camp Cemetery was not known by that name upon its discovery. In fact, nothing was known of its existence prior to the unearthing of human remains on 19 February 2018. In that historic moment, an old injustice saw the light of day for the first time in 110 years. The three medial longbone fragments found there initiated the revelation of a chapter of Texas history that had long been concealed and all but forgotten.

What the cemetery would come to represent for people of African descent was a very public and stark reminder of the abuses their ancestors had endured through 350 years of slavery. Most people living today have believed that slavery ended with the emancipation of slaves at the end of the American Civil War. But through a failing of the 13th Amendment to the Constitution of the United States, powerful factions would regain control of a cheap labor force with the leasing of convicted men for at least a further two generations across the southern states. This system of violence would continue until 1912 in Texas and would not be totally abolished in the United States until after World War II.

Before the Civil War, Fort Bend County was one of four Texas counties where sugarcane was the primary cash crop. The cultivation of sugarcane and the production of sugar was quite labor intensive. Prior to industrialization, the whole endeavor was only profitable with the use of enslaved workers. After the war, soldiers returning to their holdings found no work force to perform anything more than subsistence farming. Some plantation owners complained of poor returns found in share cropping arrangements and many described farm services for pay too costly.

In 1871, Texas Governor Edmund Davis signed a contract leasing the Huntsville Penitentiary and the entire population within to a commercial entity for profit. The lease holder then leased prisoners to private farms, providing a less expensive work force. Thus began a return to the systematic coercion of labor from black men for the cultivation of sugarcane on the same plantations from which they were freed only six years prior. Men worked long days on these outside prison camps under difficult and dangerous conditions until the convict labor system was abolished by the Texas legislature in 1912.

The study of the population of the Bullhead Camp Cemetery represents the very first study of a group of men subjected to forced labor on convict labor camps anywhere in the United States. The bones of these men can tell something about what their lives were like before their incarceration and a great deal more about what they endured in the last months and years of their lives at Bullhead Camp.

This chapter provides an in-depth historical context that complements the unprecedented bioarchaeological study presented in the chapters that follow. In Section 7.2, Dr. Helen Graham relates the tragic history of the African diaspora. In Sections 7.3 and 7.4, Dr. Theresa Jach provides the results of an in-depth study of the history of the convict labor system across the Old South and specifically in Texas. In Section 7.5, Reign Clark presents the results of a study of past landowners and holders of the various convict labor leases on and around Bullhead Camp. Section 7.6 presents the results of an exhaustive review of prison records conducted by Sandra Rogers, Dr. Helen

Graham, Diane Ralph, and Reign Clark. These records were used to identify prisoners whose last assigned location within the prison system, prior to their deaths, was Bullhead Camp. Through genealogical research, Dr. Graham then tells the stories of two men identified in association with Bullhead Camp.

7.2 THE AFRICAN DIASPORA

7.2.1 The Global Diaspora

Africa, known as the cradle of civilization, is the second largest continent, amassing 6 percent of the earth's surface (M'bow 2008, p. 13). The African continent comprises more than 50 countries and approximately 2,000 languages (Sawe 2018). Surrounded by the Mediterranean Sea to the North, the Indian Ocean to the South, and the Atlantic Ocean to the West, Africa is in a prime location for maritime trade to flourish. Rich in natural resources, merchants and traders as early as the fifth century, began commercial enterprises with African kingdoms which would reshape the landscape of the continent. African rulers traded valuable and coveted resources such as gold, ivory, spices, iron, salt, raffia cloth, and copper, but it was the trade of Africa's most valuable and precious resource, slaves, that depleted the continent. Figure 7.2.1 is a depiction of the principal trade and slave routes (Truenation 2015).

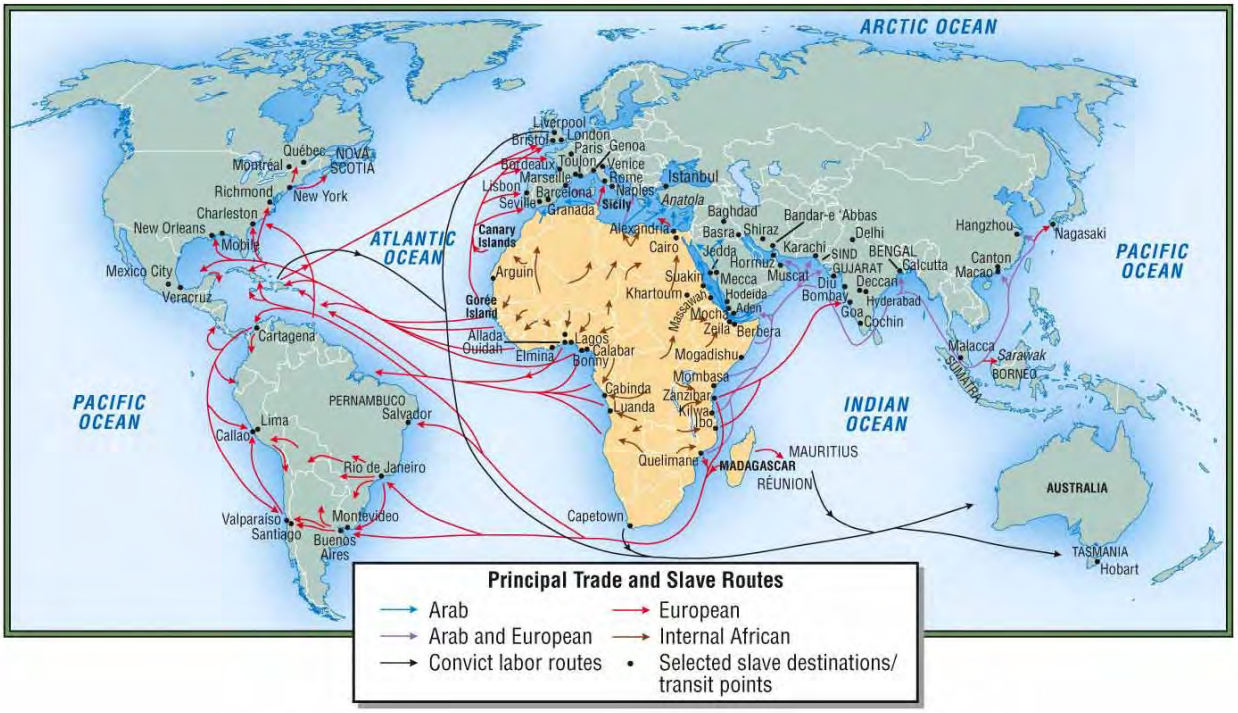

Figure 7.2.1: Principal Trade and Slave Routes, Courtesy of Truenation.org.

The Sub-Saharan or Arab slave trade began in the fifth century. Africans enslaved during this era who survived the death march were transported to Indonesia, India, Asia, Pakistan, Arabia, and the Far East. During the Sub-Saharan slave trade, just under 5 million enslaved Africans were forcibly transported between the seventh and fifteenth centuries. Descendants of African slaves can be found in Iraq, Iran, India, and Pakistan (Falola 2013, p.33).

Another 13 million slaves, mostly from the Western coastal ports of Africa, were forcibly transported to the Americas between the sixteenth and nineteenth centuries during the Transatlantic slave trade (Gates, 2017). Remnants of people of African descent can be found in places throughout the world, including North America, South America, the Middle East, the Caribbean, Europe, Asia, and Brazil (Boydell and Brewer, 2013). This dispersal of Africans, outside of the African continent, to other parts of the world is known as the historic African Diaspora. More specifically, the African Union defines the African Diaspora as "…the geographic dispersal of peoples whose ancestors, within historical memory, originally came from Africa, but who are currently domiciled, or claim residence or citizenship, outside the continent of Africa" (as cited in Zeleza 2009, p. 35). There are many remnants of the African Diasporas. In short, wherever people of African descent and their posterity claim citizenship outside the continent of Africa, a remnant African Diaspora exists.

The historic African Diaspora began as a direct result of African rulers trading African slaves to merchants and traders from the Middle East, Europe, Asia, and North and South Americas (Falola 2013). A conflict ensued when the Portuguese began capturing and enslaving natives such as the Kongolese, who had only enslaved outsiders, not their own people. Slaves were procured via wars and raids and it was not uncommon for African rulers to incite war for the sole purpose of procuring slaves for trade.

No one seemed exempt from the jaws of slavery; several African royals were also enslaved and transported to other continents.

Princess Anta Madjiguene Ndiaye of Senegal was abducted and sold to a plantation owner, Zephaniah Kingsley, in Florida. Princess Ndiaye eventually married Kingsley and became a wealthy plantation owner. Another Princess, Princess Aqualtune Ezgondidu Mahamud Da Silva Santos of Central Africa, was captured in the Battle of Mbwila while leading 10,000 men in battle. She was bought for the sole purpose of reproduction and sold in Brazil. King Takyi of Ghana was a wealthy merchant and slave trader before he was captured in the Kommender Wars and sold in Jamaica, where he was later killed while leading a rebellion (Johnson 2018).

It is important to note that not all African slaves who were forcibly dispersed outside of the continent remained a part of an African Diaspora as few of them returned to their homelands in Africa. Chief Eno Baise Kurentsi of modern-day Ghana sent his son Prince William Ansah Sessarakoo to England to study. Instead of transporting Prince Sessarakoo to England, the ship's captain transported him to Barbados and sold him into slavery. Years later, Sessarakoo was returned home to his father who, ironically, was a slave trader. Prince Ayuba Suleiman Diallo of Senegal was abducted and sold into slavery in Maryland then returned home in 1734 (Johnson 2018). Prince Abd Al-Rahman Ibrahima from modern day Guinea, the son of King Sori of the Fulbe (also known as Fula or Fulani), was captured as a prisoner of war, sold as a slave, and later returned to Africa.

Before his capture, Ibrahima had quickly risen through the ranks of his father's army and was known throughout the region as a formidable foe. During Ibrahim's last campaign in the spring of 1788, the Heboh army defeated Ibrahim, captured him, and sold him to Mandinka *slatees*, black merchants who traveled into Africa's interior to buy goods, including prisoners of war. The Mandinka slatees

sold Ibrahim to European slave traders for “two flasks of powder, a few trade muskets, eight hands of tobacco, and two bottles of rum” (Alford, 1977, p. 21).

Initially, Ibrahim was sold in Roseau, Dominica to Thomas Irwin, a slave dealer. Irwin transported Ibrahim to New Orleans and then to Natchez, Mississippi, where he sold Ibrahim to Thomas Foster. Ibrahim would spend the next 40 years as Foster’s slave until he was manumitted in 1829 at the urging of the Sultan of Morocco and the request of President John Adams and Secretary of State Henry Clay. Ibrahim and his wife Isabella, an American-born slave, then migrated to Liberia. Ibrahim died of a fever four months after arriving in Liberia and never reached his home country (Alford 1977). Two of Ibrahim’s sons, Lee and Simon, and their families also migrated to Liberia in 1830. Ibrahim’s son Prince and his family, however, remained enslaved in Mississippi (Alford 1977).

In addition to the enslavement of men and women, including royals, children were also enslaved and became a part of the African Diaspora. At the age of 11 (circa 1756), Olaudah Equiano and his younger sister were abducted from their home in [Benen] West Africa (present day Southern Nigeria) while the adults were working in the fields. They were sold to different slave traders and never saw each other again. Equiano and other Africans were sold to European slave traders who transported them to Barbados, where the African cargo was separated and sold to different slave owners. Equiano was transported to Virginia, sold to Campbell, and had his name changed to Jacob. Equiano spent a few months in Virginia before he was sold again to Michael Henry Pascal, a lieutenant in the British Royal Navy. Equiano was sold a few more times before one of his masters allowed him to emancipate himself. The sea and England became Equiano’s new home. He converted to Christianity, was baptized, and changed his name to Gustavas Vassa (Equiano 1789). He later married an English woman, had two daughters, and supported the abolition movement in England. In 1797, Equiano died and was interred in London (BBC 2014). Equiano is part of the African Diaspora in England.

7.2.2 The African Diaspora in North America

The Atlantic slave traders created more African diasporas in Brazil, the Spanish empire (including Cuba), the British and French West Indies (including Cayenne), the Dutch West Indies (including Surinam), the Danish West Indies, Europe (including Portugal, Canary Islands, Madeira, and the Azores), and North America (Thomas 1997). As the Portuguese, Spanish, Dutch, British, and French developed colonies in the Americas, demand for labor in tobacco, cotton, and sugar fields in the new world increased. Slaves were also valuable for their skills in iron work and their ability to heal people with herbs.

Approximately one half of all slave transactions took place in the 18th century, including more than 100,000 in 1792 alone. During this period, the vast majority of slaves left the shores of the Congo and were transported to Brazil, while approximately 500,000 were sent to North America (Thomas 1997). Portugal led the trade with 30,000 voyages followed by Britain with 12,000 voyages. About 40 percent of *all* slaves entering North America entered through Charleston, South Carolina, a hub for slave trade in the colonies (Gates 2013, “Black Atlantic”). Sugar plantation owners acquired 6,000,000 slaves while coffee plantation owners acquired 2,000,000 slaves (Thomas 1997, pp. 804-05).

Many slaves died during their march to the coast and many more died in the Middle Passage. The Middle Passage is the route between Africa and the Americas:

> It was the nightmarish middle leg of a triad that had its beginning and end in England. From English ports, ships loaded with manufactured goods set off for Africa where the goods were traded for humans. The human cargo was transported to the Americas and traded for raw materials to be sold in England…Half of the more than 20 million Africans captured and sold into slavery never even made it to the ship. Most died on the march to the sea. It is impossible to determine how many more lost their lives during the crossing. Current estimates range from 1 million to 2.2 million. (Johnson, Smith, and WGBH 1998)

Table 7.2.1 represents the origins of slaves dispersed during the Transatlantic slave trade. Table 7.2.2 is a representation of the destinations of Africans during the Transatlantic slave trade. Tables 7.2.3 and 7.2.4, respectively, show the carriers, the number of voyages, and the industries in which slaves were first employed in North America.

Table 7.2.1: Origin of Slaves in the Transatlantic Slave Trade

Origin	Number of Slaves
Senegambia (in Arguin), Sierra Leone	2,000,000
Windward Coast	250,000
Ivory Coast	250,000
Gold Coast (Ashanti)	1,500,000
Slave Coast (Dahomey, Adra, Oyo)	2,000,000
Benin to Calabar	2,000,000
Cameroons/Gabon	250,000
Loango	750,000
Congo/Angola	3,000,000
Mozambique/Madagascar	1,000,000
Total Leaving African Ports	13,000,000

Note. Source – The slave trade: The story of the Atlantic slave trade: 1440-1870 by Thomas, 1997, New York, NY: Simon & Schuster.

Table 7.2.2: Destination of Slaves via the Transatlantic Slave Trade

Destination	Number of Slaves
Brazil	4,000,000
Spanish empire (including Cuba)	2,500,000
British West Indies	2,000,000
French West Indies (including Cayenne)	1,600,000
British North America	500,000
Dutch West Indies (including Surinam)	500,000
Danish West Indies	28,000

Destination	Number of Slaves
Europe (including Portugal, Canary Islands, Madeira, Azores, etc.)	200,000
Total	11,328,000

Note. Source – The slave trade: The story of the Atlantic slave trade: 1440-1870 by Thomas, 1997, New York, NY: Simon & Schuster.

Table 7.2.3: Carriers of Slave Cargo and the Number of Voyages Via the Transatlantic Slave Trade

Country	Number of Slaves
Portugal (Including Brazil)	30,000
Spain (including Cuba)	4,000
France (including West Indies)	4,200
Holland	2,000
Britain	12,000
British North America, U.S.	1,500
Denmark	250
Other	250
Total	54,200

Note. Source – The slave trade: The story of the Atlantic slave trade: 1440-1870 by Thomas, 1997, New York, NY: Simon & Schuster.

Table 7.2.4: First Employment of Slaves in the Americas

First Employment	Number of Slaves
Sugar plantations	6,000,000
Coffee plantations	2,000,000
Mines	1,000,000
Domestic labor	1,000,000
Cotton fields	500,000
Cocoa fields	250,000
Building	250,000
Total	11,0000,000

Note. Source – The slave trade: The story of the Atlantic slave trade: 1440-1870 by Thomas, 1997, New York, NY: Simon & Schuster.

Dr. Ivan Van Sertima (1935-2009) was perhaps best known for his research on Africans in America before Columbus arrived in 1492, but Juan Garrido (circa 1487-1587), a Black conquistador who participated in Spanish expeditions and owned Black and Indian slaves, is the first documented African to arrive in North America and he did so as a free man circa 1510 (Gerhard 1978). A little more than 100 years later, in August of 1619, the first documented African slaves arrived in Jamestown, Virginia, aboard a pirate ship named *The White Lion*.

The life and death of one notable African servant, Antonio the Negro, help illuminate not only the demand for free labor, but also the evolution of slavery in North America (Gates 2013, “Black Atlantic”). In the 1625 census, Antonio the Negro is documented as a servant. He arrived in Jamestown, Virginia, aboard the *James*, worked alongside his owner, and eventually secured his

freedom. In court documents from 1641, Antonio is shown to have a Black servant name John Casor. When Antonio died in 1670, his name was Anthony Johnson, he had White indentured servants, and owned a 250-acre tobacco farm. A few months after his death, an all-White jury seized Antonio's land because they deemed him a "Negroe and by consequence an alien" ("Facing History," 2020, Part Three). The events following Antonio's death set a precedent for future slaves in the United States.

The Transatlantic slave trade lasted 350 years. During this span, millions of Africans from numerous cultures lost relations and friends. The historic African Diaspora also resulted in the dehumanization of an entire race. African slaves were held in pens, branded, flogged in public, decapitated, and steeped in their own fecal and urine matter. Women and girls alike were sexually assaulted by crew members; some committed suicide or mutilated themselves so they would not get pregnant (Gates 2013, "Age of Slavery"). Once in the U.S., amputations, rape of men and women, and castrations amplified the dehumanization of Black lives. Although African slaves enriched the lives of slave traders and owners, they only accounted for three fifths of representation according to the Three-fifths Clause of the 1787 United States Constitution ("Library of Congress," n.d.). The Slave Trade Act of 1807 abolished the international slave trade, but slave traders continued to illegally import approximately 54,000 slaves into the United States (Thomas 1997, p. 862).

With the abolishment of slavery, Africans continued to swell the ranks of the African Diaspora, but on a voluntary basis. In the twentieth century, an influx of Africans began to voluntarily migrate to the United States due to political unrest in Africa and for better economic and educational opportunities. The largest group migrated from West Africa and settled in metropolitan areas such as New York, California, Texas, and Maryland. This voluntary migration continues still. A new African Diaspora has emerged.

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7.3 Convict Labor: A National Perspective

7.3.1 Introduction

In the aftermath of the Civil War, the demand for black labor in extractive agriculture fueled the growth of convict leasing across the South. By leasing convicts, almost exclusively African American, to plantation owners, southern states profited on the backs of former slaves. They also subverted the original purpose of the penitentiary from reforming the criminal to creating profit and avoiding expense to the state. Once African Americans became free and their labor was no longer compulsory, southern planters complained of labor shortages. Since planters could not whip freedmen to get more labor out of them, many found convict labor an attractive alternative. As thousands of African Americans convicted of petty theft flooded into southern prisons that were not large enough to hold them, states grappled with an expanding convict population. They leased inmates to plantations, railroads, turpentine camps, and mines, depending on the economic activities of each area. Reasons for adopting the convict lease were generally the same across the South: too few or too dilapidated penitentiaries to hold post-Civil War convicts, the need for a cheap and reliable labor force to replace enslaved people, racism that placed little value on black lives, a desire to modernize, not enough state money to industrialize, and an unwillingness to spend public money to build prisons.

7.3.2 Antebellum Period Prison

As originally designed, penitentiaries were meant to not only protect society from criminals, but also to reform the criminal so he could return as a productive member of society (Walker 1988). While northern states embraced penitentiary building in the 1820s and 1830s, across the South, debates about how penitentiaries fit into a free republican society raged and southerners were a decade or more behind their northern counterparts (Rothman 1971). Southerners who believed republicanism meant keeping power locally, generally opposed penitentiaries (Ayers 1984). Several historians have linked the rise of the penitentiary with the growth of factories (Foucault 1995; Ignatieff 1978). Because the South had far less industry than in the North, explaining penitentiaries in terms of producing good workers for factories is not convincing for that region. The penitentiary was a touchy subject with voters across the South. In North Carolina, a referendum was held on the penitentiary, only 28 percent of voters supported the plan. Southern elites generally supported penitentiary building because they had a greater stake in society and wanted social order. Elites also wanted to counteract the view of northerners and Europeans that the South was a backward region because of slavery. Penitentiaries were seen as modern and civilized. However, for many southerners, a general distrust of government, localism, and suspicion of progressivism led to their opposition to penitentiaries (Perkinson 2010).

Before the Civil War, penitentiaries, both in the North and the South, were filled mainly with white immigrants. The few blacks in southern prisons had been freedmen before their sentences. Louisiana was one of the few states that regularly imprisoned slaves instead of hanging them for crimes, Virginia was another (Schwarz 1996). In the 1850s, in areas with small free black populations like Alabama and Mississippi, only 1 percent of convicts were black. In Virginia and Maryland, where there was a large free black population, the percentage of black convicts was 33 and 50 percent respectively. Many southern whites did not like even the lowest whites being locked up with blacks,

as they felt it degraded whites. In Virginia, many black convicts who had been free before incarceration were sold into slavery rather than imprisoned with whites. For southerners, having blacks in their penitentiaries made reformation of the convicts' character impossible. In 1858, Virginia "solved" this problem by working black convicts outside the walls on public works (Ayers 1984).

7.3.3 Southern Prisons During the Civil War

The South and its prisons suffered during the war. Penitentiaries that were small to begin with at the start of the war were by the end of the war dilapidated, and in some cases destroyed. Union soldiers destroyed Mississippi's prison during the war, forcing the state to send their convicts to Alabama to be housed. In Arkansas and Georgia, convicts were put in the Confederate army. General William Tecumseh Sherman reportedly burned the Georgia penitentiary as part of his "march to the sea." (Oliver and Hilgenberg 2006). State treasuries were strapped, and area planters complained about labor shortages now that they could no longer compel freedmen to work for them. After emancipation, white Southerners directed their anger about the loss of their way of life built on the subjugation and degradation of enslaved men and women toward newly freed African Americans. (Blackmon 2008). This anger and the need for laborers for extractive agriculture converged in the criminal justice system across the South. White obsession with controlling black labor was central to the development of the Southern penal system (Grantham 1983).

7.3.4 The Early Reconstruction-Era Prison

Politics always has a hand in defining criminal behavior. An activity is not criminal unless the ruling group deems it so. For example, debt was criminalized as fraud and speaking loudly in front of a white woman could lead to a black man's arrest (Blackmon 2008). After the war, southerners blamed widespread looting and stealing on recently freed slaves. The state's assumption of control of blacks from their former masters marked a significant alteration in southern penology (Ayers 1984). Because they were not used to dealing with black criminals, many southern legislatures returned to corporal punishment for crimes. However, state and counties soon discovered that the misdemeanor convict lease system was an effective labor and social control system. Not only would convicts generate desperately needed income, the threat of being arrested on trivial charges struck fear of and forced compliance with the white power structure across the South.

As southern states reopened their penitentiaries, they mainly housed black convicts (Oliver and Hilgenberg 2006). Across the South, there was a widespread belief that crime increased dramatically after emancipation. Although the number of inmates increased in southern prisons, this was a result of stricter enforcement of the law and a more efficient criminal justice system. There were similar increases in both northern and southern prisons after the war, pointing to an economic cause, rather than a racial cause (Ayers 1984). Emancipation had created a large population of unemployed blacks that came to cities looking for work.

Freedmen caused fear and unease among white southerners. Whites typically viewed former slaves as wandering the "countryside, in search of pleasure and trouble" (Oshinsky 1986, 18). Newspapers reported, "[i]dle darkies were clogging the roads, stealing crops and livestock, jostling whites from sidewalks, and fouling the air with cigar smoke and profanity" (Oshinsky 1986, 18). Ex-slaves received little help from the Freedmen's Bureau that would have led to self-sufficiency (Foner 1983).

The desire to maintain cash-crop production outweighed any real efforts to liberate blacks. Whites believed that forcing idle blacks to work would solve the labor shortage and ease fears. Moreover, whites believed African Americans had to be made to appear to work (Kerber 1998). A northern newspaper reported that, to Texas blacks, freedom meant not working (Rice 1971). Even if a former slave did work, his or her race would determine what manner of work was acceptable to whites.

Since whites could not separate blacks from roles as servants or agricultural workers, vagrancy statutes became a way to force blacks into work roles whites demanded. Vagrancy laws gave county officials nearly unlimited power to arrest, fine, and then force black men and women to labor in exchange for those fines (Blackmon 2008). Vagrancy statutes ensnared countless freedmen in the criminal justice for profit system. Southern prison officials found they could not house the growing number of convicted criminals. Convict leasing not only provided an outlet for the expanding prison population, it provided the state with income and planters with labor.

Although the Black Codes across the South did not refer to racial distinctions, they were designed to control the labor of freedmen (Rice). Apprentice laws forced minor black children who were indigent or had indigent parents into the service of a master or mistress until that child reached the age of 21 (Gammel 1898). Laws regulating labor made it next to impossible for freedmen to switch employers. Once the employee made a contract, it had to be fulfilled. Enticement laws made it a crime to try to “lure” away another person’s contract laborers. Those without a labor contract were subject to arrest for vagrancy.

Texas had particularly harsh vagrancy laws. A vagrant was defined as any “idle person, living without any means of support, and making no exertion to obtain a livelihood, by any honest employment.” (Gammel 1898). Also included in the vagrant category were fortunetellers, prostitutes, gamblers, beggars, and habitual drunkards who neglected their families. State and county laws mandated that local sheriffs supply the names of suspected vagrants. Working from these lists, the state had periodic “vagrant round-ups,” especially during times of labor shortages (Cohen 1991). It only took a complaint in writing from a “credible person,” meaning a white person, to have someone arrested for vagrancy in Texas.

The state or county could fine convicted vagrants up to $10 plus court costs, and they were not released until they had paid those fines (Gammel 1898). If they could not pay, they were to “be put at such labor” as the county or town saw fit to provide. Convicts earned a credit toward their fines at the rate of $1 for every day that they worked. If vagrants refused to work to pay off their fine, the county or city confined them with only bread and water until they agreed to work. This sometimes led to indefinite periods of incarceration, as time served while refusing to work did not count towards the fine owed the state.

This southern-wide trend of incarcerating large numbers of African-Americans prompted one Louisiana prison official to ask the reason why “so many are sent to this institution for the term of three, four, and six months, upon the most trivial charge? Does there not lurk beneath the low, mean motive of depriving them of the right[s] of citizenship?” (Careltonn1971, 15). In the view of one county judge in Texas, blacks convicted of theft were punished more harshly than whites convicted of

murder. “The natural antagonism of race,” he observed, “has a tendency to induce us whites to lend too ready an ear to charges against the Negro, while on the other hand for violence done the Negro by the white man, there is a disposition to palliate or excuse…” (Nunn).

7.3.5 Transition to Convict Leasing

Improved roads and railroads served as an important step in industrializing the South (Lichtenstein 1996). As Henry Grady, editor of the *Atlanta Constitution* and the main architect of the “New South” movement would later argue, the South needed industry to compete with the North (Blackmon 2008). Other industries using convict labor, like coal mining or turpentine extraction, also increased industrial capacity across the South. Convict labor would increase industrial output to benefit white southerners, while at the same time reinforce the social order that kept African Americans subjugated to whites.

Once former slaves were caught in the criminal justice system, they flooded southern penitentiaries. This spawned a southern-wide movement toward convict leasing. Leasing would prove profitable in the beginning for southern states. In Louisiana, it proved so profitable that they emptied their entire penitentiary and leased all their convicts (Oliver and Hilgenberg 2006). In other southern states, counties benefited from increased convict populations. In Georgia, for example, as their penitentiary filled, they transferred more convicts to county jail, where they worked on roads or were hired out to private contractors. Counties needed the revenue convicts brought in, and white citizens did not oppose the idea of seeing black convicts forced to labor in public, as they did with white convicts (Ayers 1984) The chain gang transformed county convicts from a burden to a source of revenue. Before the Civil War, prosecuting minor crimes was a costly burden to counties. After the war, with the development of chain gangs, this type of prosecution became an incentive. In many ways, black crime became an asset to the community. Not only were roads improved, jails were less crowded and former slaves were compelled to work.

Many southern states experimented with hired labor, by both immigrants and African Americans, for railroad work. However, they complained both groups were unreliable, as they missed work, got drunk, and fought often. If these men worked slowly, there was little the railroad could do about it. Convicts, however, could be whipped, they could not quit, and they did not have easy access to alcohol. Railroad development benefited the entire state, so the government had an interest in not only financing them but guaranteeing a labor force to build them. Tennessee leased nearly all its convicts to the Cincinnati Southern Railroad in the mid-1870s. In Mississippi, under the control of Edmund Richardson, convicts built railroad lines through the Canay Swamp. Richardson, a pre-War millionaire, had received a lucrative contract from that state in 1868. In return for feeding, clothing, and guarding the convicts, the state paid him $18,000 per year and agreed that he could keep all profits earned from the convicts’ labor, which made Richardson a fortune (Oshinsky 1996). Convicts worked in water, half-naked, barefoot, and chained together. They were forced to relieve themselves in the water they worked in. The railroad paid the state $1.75 per day per convict. The state claimed that convicts did 30 percent more work than free labor, as they could be compelled to work longer hours and in all weather conditions. In Texas, railroads would lease many convicts, but the demands

of planters would funnel most convicts into agriculture. Virginia also forced convicts to labor building railroads.

John Henry, the man who inspired the folk song about his race with a steam drill working on a railroad, was one of those convicts caught up in Virginia's black codes. Convicted on trumped up charges of burglary at a grocery store in Prince George's County, Henry ended up in the Virginia State Penitentiary, sentenced to ten years. He soon found himself leased out to the Chesapeake & Ohio Railroad. (Nelson 2006) Henry and other leased convicts did indeed work faster than the steam drill boring holes for dynamite to blast a tunnel through a mountain.

Some states, like Alabama and Tennessee turned to mining operations to work convicts. This served a dual need: labor to develop natural resources for industrialization and a way to work convicts at little cost to the state. Convicts brought in about $100,000 per year to each state, 10 percent of total state revenues (Ayers 1984). In northern prisons, convict labor provided a mere 32 percent on average of the total operating costs of the penitentiaries. In the South, the convict lease returned 267 percent of prison operating costs, thereby contributing a substantial amount of money into the states' coffers. Nowhere was this truer than in Alabama, where counties and the state competed for inmates to lease to the coal mines across the state (Blackmon 2008; Curtin 2000).

Southern states began leasing convicts in earnest in 1871, following the case of *Ruffin v. Commonwealth*, which came before the Virginia Supreme Court. Inmate Woody Ruffin killed another convict while working on a chain gang. Ruffin was tried, convicted, and sentenced to death. He appealed the death sentence, arguing he had a constitutional right to be tried in the jurisdiction where the crime took place (Nunn 1962). In denying his appeal, the court stated, "during his term of service in the penitentiary… [a prisoner] is in a state of penal servitude to the State. He is for the time being the *slave* of the State" (*Ruffin v. Commonwealth*, 62 Va. 790, 796). They also ruled that a prisoner was "civilly dead" and forfeited all personal rights except those that "humanity accords" him (Thomas 1988). Southern states quickly adopted the Virginia ruling. If prisoners had no rights, then it was acceptable to force them to labor.

In 1875, the Arkansas legislature passed a law that made theft of any property worth more than $2 punishable by one to five years in the penitentiary (Bayliss 1975). These legal changes across the South certainly increased convict populations. Florida, and other state legislatures, implemented "false pretense" laws. Especially at the turpentine camps, managers paid an advance to new workers. If the worker tried to leave before the advance was repaid, they were charged with fraud for taking the advance. This tied workers through indebtedness (Outland 2004).

7.3.6 The Zenith of the Convict Lease System

Southern governments used many terms to describe the use of convict labor and an understanding of the terms is necessary. First is the "contract system." A firm would pay the state a fixed rate for the use of the penitentiary and the convicts. The State was responsible for housing convicts and guarding them. Second, is the "state use system." States utilized convict labor for the public good, for example working on roads or other public works. They might also make goods needed by other state institutions. This system kept convicts out of direct competition with free labor. Third, is the

“convict lease system.” The State received a fixed amount and relinquished all control and oversight of convicts. The lessee housed, fed, clothed, guarded, and worked convicts (Mancini 1996). All southern states used these systems, sometimes all three at once. There were often one set of rules for white convicts and another for African American convicts.

In Texas, as discussed in Chapter 7.4, the state issued its first full lease to Ward, Dewey, & Co. In 1871. The state retained a small amount of control through a Board of Directors and a prison inspector. The lessees paid the state $5,000 a year for the first 5 years of the lease. In Alabama, the lessee was required to take all prisoners, even those too old or infirm to work and had to pay all transportation costs to the penitentiary. In 1888, Alabama would claim they were not leasing convicts on a technicality. The state claimed that since they set the tasks for convicts’ labor, and not the lessee, that the state retained control of the convicts (Mancini 1996).

Most of the convicts in Louisiana were under the control of S.L. James or his heirs, from 1870 to 1901. While James used some convicts on his personal plantation, Angola, most worked on public works improving the levee system and the railroads. Both of these were critical to the economic success of Louisiana after the Civil War. The legislature voted to keep all of Louisiana’s convicts working inside the penitentiary walls in 1875, but they never appropriated the money to make that happen, and convicts continued to labor on the railroads and levees (Cardon 2017).

North Carolina handled their convict and lack of infrastructure in a unique way. The state had no money to repair their penitentiary and no way to work a growing number of convicts. They also had a problem with the Western North Carolina Railroad (WNC), which was vital to the state’s economic bottom line. The WNC filed for bankruptcy, and in 1874 the legislature voted to purchase it for the state and use nearly all of their convicts to complete it (Carson 2005).

Arkansas’s first convict lease in 1867 paid the lessees to rebuild the penitentiary and $0.35 per day per convict for upkeep for three years (Bayliss 1975). There was no state oversight. (Mancini 1996). In 1873, the legislature passed a new law that gave the lessee control of the entire penitentiary with no costs to the state. Convicts could be worked anywhere in the state except Little Rock. The new lessee, Zeb Ward, made a fortune on leased convicts (Zimmerman 1951). Like most southern states, Tennessee’s penitentiary was too small to hold all its inmates and the treasury was too depleted to do anything about it (Moulder 1976). Coal mining made up the bulk of convict work in Tennessee. Free miners bitterly opposed the use of convict labor. Coal mine managers used convicts as strike breakers, leading to violence (Shapiro 1998).

Florida forced convicts to labor in turpentine camps. As these camps were often far from cities and towns, it was difficult to attract free labor. By using convicts, camp managers could operate from sunup to sundown six days per week (Outland 2004). Because of this brutal schedule and the use of the lash to compel work, the convict camps were 50 percent more productive than those operating with free workers. Conditions in the Florida turpentine camps were so brutal that many convicts inflicted injuries upon themselves to get out of the work. Escapes were rampant and guards killed multiple convicts who attempted to run.

Across the South, abuse and neglect of convict laborers was the norm. In Louisiana, the average life span of a leased convict was only six years (Cardon 2017). In Texas, a convict leased to a sugar plantation lasted an average of seven years. Multiple legislative investigations uncovered a myriad of torture and abuse in Texas, as covered in Chapter 7.4.

In North Carolina, a local journalist reported that the convict camps were squalid and horrifying (Carson 2005). The mortality rates were especially high in the railroad camps in the mountains. The newspapers in Arkansas reported beatings, whippings, and murder. The biggest convict lease scandal in that state was known as the "Coal Hill Horrors" in the press. After citizen complaints, the state investigated the camp run by Quita Coal Company. They found guards had beaten several men to death and one died after guards administered 400 lashes. They also discovered at least 60 graves of men buried without the inquest required by law (Bayliss 1975).

Despite widespread abuse of convicts across the South, little changed. Legislatures investigated, government officials promised changes, but if convicts brought money into the states' coffers, there was no real impetus to change the status quo. White southerners expected black men and women to work as they had while enslaved. The demand for labor to benefit the growth and development of the South's economy prevented any real amelioration of convict conditions. In the words of Thomas Goree, Prison Superintendent of the Texas Prison system, "No one will attempt to deny that the system is an evil…under it there is little or no chance for reform. It can only be defended on two grounds: necessity and because it is a source of revenue" (*Biennial Report of the Superintendent of the Texas State Prison*, 1880, 21).

7.3.7 Ending Convict Leasing

Beginning in the 1890s, southern states began the process of abolishing the lease and working convicts on public account, where the state directed the work and all goods produced were sold for the state's benefit. Mississippi was the first to "end" their convict lease program in 1890, in name only. In reality, they leased twice as many convicts in 1902 as they had in 1890. State leaders claimed that since the state hired the guards, it was not technically "leasing" (Mancini 1996).

In Texas, the legislature authorized purchasing a large sugar and cotton plantation to work convicts deemed unsuitable for leasing. This farm, named Harlem, earned a profit in the first year (Gammel *1898*; Texas State Penitentiary 1886; and McKelway 1910). In 1901, Louisiana's legislature approved the purchase of a sugar plantation named Angola (the former S.L. James estate) to work the state's convicts, with an eye on ending their lease system (Cardon 2017). As the Western North Carolina Railroad reached completion, that state also began shifting convicts to state-owned prison farms (Carson 2005). After experimenting with working convicts on shares, the Arkansas legislature approved the purchase of a state-owned farm. This farm proved too small to work all of the state's convicts, so many were still hired out (Bayliss 1975).

By 1904, the Mississippi legislature had purchased over 20,000 acres of farmland to work convicts. The largest farm was formerly owned by the Parchman family. The first cotton crop was planted at Parchman Prison farm in 1904, and in 1905, it turned a $185,000 profit for the state (Oshinsky 1996).

The 150 white convicts worked on a small cotton farm, and the 1500 black convicts were especially good farmers who brought in “quite a revenue” for the state (McKelway 1910).

Georgia focused on using convicts on road improvement (Lichtenstien 1996). Virginia’s legislature appropriated $150,000 for convict road building in 1908 (Zimmerman 1951). Florida resisted the movement to end leasing. They leased out women, children, the elderly, and “imbeciles” (McKelway 1910). In Florida, the climate did not allow for an enclosed penitentiary, so a state farm was seen as the best solution. Another perceived benefit of the state-owned farms was that they took convicts out of direct competition with skilled labor.

Progressive reformers across the South were interested in change, as long as the races were kept segregated and it did not cost too much. By the end of World War I, leasing had ended across the South (Zimmerman 1951). Southern penologists came up with two workable solutions to utilize convicts returned from the lease. One hallmark of the Progressive Era was an emphasis on the good of the people over the benefit to the individual. Ending leasing fit into this practice, and both state-owned farms and road improvement would, in theory, benefit all. The “good roads” movement began with the Populists, who agitated for better farm-to-market roads. Many reformers believed road work gave the state more direct control over convicts than did leasing.

In 1910, the Texas legislature passed a prison reform law that required the end of convict leasing starting in 1911. They set 1914 as the termination date for any lease contracts already in effect (Gammel 1910). James Vardaman, the Governor of Mississippi from 1904 to 1908, finally ended leasing in that state, not because he believed in true reform, but because he hated the men holding the lease. It was personal revenge on his part to end the lease (Oshinsky 1996; Homes 1965). Georgia ended the lease in 1909 at the behest of the governor and pressure from citizens and journalists around the state. In order to reinforce white supremacy, Georgia also disfranchised all African American men in the same year (Mancini 1978).

Florida was the last of the southern states to end convict leasing. The state officially ended the lease of state convicts in 1918, but under pressure from large lumber companies, they continued to allow county convicts to be leased. However, following the fatal beating of a young white convict named Martin Tabert in 1922, northern states instituted a boycott of Florida citrus. There was a costly drop in tourism as well. The Florida State legislature voted to end the leasing of county convicts as a result (Miller 2000).

Although convict leasing ended, the exploitation of convicts did not end. Southern states continued to operate state-owned prison farms and earn a profit. Black men continued to be disproportionately swept into the criminal justice system. Racism continued to influence the larger criminal justice system in the United States.

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7.4 CONVICT LABOR IN TEXAS

7.4.1 The Early Texas Prison System

During the early years of Mexican independence, when Stephen F. Austin was contracting with the government to bring Anglo colonists to Texas, provisions were made for the inevitability of a criminal class in the colony. The Colonization Law of 1824 provided regulations for the use of convict labor. Any person convicted of vagrancy or other crimes in the state of Coahuila y Tejas could be sentenced to hard labor. These convicts could then be utilized in making and repairing roads in Texas. Convicts could also be employed by individuals. However, the convict was to be paid for his labor. When his sentence was completed, if the civil department determined the convict's character had been reformed, he could receive land and becomes a settler in the colony. All this depended upon reformation of his character (Gammel 1898).

After gaining independence from Mexico in 1836, the Texans made a few futile attempts to set up a national prison, while Europe and North America sustained their pace of penitentiary building. (Walker 1988). As an independent republic, Texas had little time or money to deal with building a penitentiary. The Republic of Texas was nearly $10 million in debt (Miller 1916). The congress of the Republic of Texas defeated two penitentiary bills, one in 1840 and another one in 1842 (Journals of the 4th and 6th Congress of the Republic of Texas, 1931). Many Texans wanted to be annexed to the United States and focused much of their efforts to that end. In the United States, only North and South Carolina and Florida did not have a penitentiary by 1842 (Ayers 1984).

Becoming part of the United States did not immediately provide the stability required to address the penitentiary issue. The newest state was, however, firmly aligned with southern interests, including the use of slaves in plantation agriculture.

Once the legislature was no longer occupied with the Mexican-American War, it passed a bill on March 13, 1848, to build a penitentiary based on the Auburn plan, with solitary cells, communal work areas, and a yard surrounded by a secure wall (Gammel 1898, 79-84). Acting for their new state, which had a growing population, the Texas legislature accepted state responsibility for its criminal classes. Once the *Act to Establish a State Penitentiary* passed the legislature, the Board of Directors selected the city of Huntsville as the ideal site and began construction on August 5, 1848. Although construction of all buildings was not yet complete, the first prisoner, William Sanson, a convicted horse thief from Fayette County, arrived in Huntsville approximately 14 months later (*Texas Department of Criminal Justice* 2004). Three months after Sanson's arrival, there were three inmates in Huntsville. Although Texas was new to the penitentiary business, the rest of the country was seeing a physical decline in their prisons, some of which were 30 years old (Oliver and Hilgenberg 2006).

As soon as the first Texas penitentiary opened in Huntsville, in 1849, the state legislature began searching for ways to defray some of the costs of maintaining convicts (Martin and Ekland-Olson 1987). The first convicts were white males, because the plantation system dealt with most black crime. In pre-Civil War Texas, the policy was to keep all prisoners inside the penitentiary walls (Fierce 1994). Considering the small number of convicts, this was a reasonable ambition. On January 1, 1855 there were 75 inmates serving time in the penitentiary (Texas State Penitentiary 1892).

The main issue with the penitentiary was the same one that had been on the minds of the legislature when Texas was part of Mexico: how to operate a penitentiary without overburdening the state treasury or taxpayers.

Although there is no indication that Governor Peter Hansborough Bell addressed the penitentiary with the legislature during his first term, by the end of his second term in 1853 he requested an appropriation of $35,000 to install a textile factory in Huntsville, an idea first discussed before Texas independence. This factory was to employ convicts and make the penitentiary not only self-supporting, but to aid in the reformation of convicts through labor, another part of the prevailing penitentiary movement (Walker 1988).

The idea of leasing convicts' labor in Texas to private interests began as early as 1854, under Governor Elisha Pease, who was determined to make the prison system self-supporting (Griffin 2010). When Pease took office, he tried to halt the building of the textile factory in favor of workshops that could be leased to private contractors. The legislature rejected Pease's plan in favor of Bell's, and appropriated money to complete the textile factory. This undertaking proved profitable, and the state sold all the cloth its convicts produced (Walker 1988). By 1856, there were enough looms and spindles in operation to make cloth out of 500 bales of cotton and 6,000 pounds of wool per year. The factory proved profitable from the start, supplying rough cloth favored by planters for slave clothing. By 1860, the number of inmates had increased to 182 (Texas State Penitentiary 1892). Because the penitentiary was designed to accommodate 400 prisoners, there was no overcrowding in these early years.

In spite of the difficulties of operation, the prison textile factory was profitable during the war. In fact, the total state expenditures on the penitentiary from 1848, when construction began, until the start of the war in 1861, was $318,958, or less than $25,000 per year (Miller 1916). The textile factory was considered an important "auxiliary to the government" during the war, and the prison was self-sustaining during that period (Miller 1916). The wartime boom at the penitentiary did not last; when the war ended, there were supply problems and no more demand for coarse slave clothing or military uniforms made from prison cloth. To exacerbate the difficulties faced by the prison, the number of inmates increased dramatically after the war (Walker 1988).

7.4.2 The Reconstruction Era Penitentiary

The problems facing Texas during the immediate post-war years were similar to those across the South. The penitentiary at Huntsville was dilapidated and overcrowded with prisoners, many of them ill (Mancini 1996). From 1866 to 1870, the prison population of Texas grew from 134 to 489 (Texas State Penitentiary 1870). By 1868, the majority of Texas convicts were black laborers who had committed no crime more serious than larceny. Their average sentence was four months to one year (Carleton 1971). This southern-wide trend of incarcerating large numbers of African-Americans prompted one Louisiana prison official to ask the reason why "so many are sent to this institution for the term of three, four, and six months, upon the most trivial charge? Does there not lurk beneath, the low, mean motive of depriving them of the right[s] of citizenship?" (Carleton 1971:15). In the view of one county judge in Texas, blacks convicted of theft were punished more harshly than whites convicted of murder. "The natural antagonism of race," he observed, "has a tendency to induce us

whites to lend too ready an ear to charges against the Negro, while on the other hand for violence done the Negro by the white man, there is a disposition to palliate or excuse…" (Nunn 1962:241)

One historian has claimed that freedmen who were unable to make the transition from slavery to freedom committed the majority of murders in Texas between January 1869 and March 1870. Texas had a nationwide reputation for lawlessness in this period, and contemporaries claimed that fellow blacks had murdered over 3,000 of their own race in one year (Nunn 1962). Of the 939 recorded murders, 429 of the victims were black and 470 were white. Only ten of the white victims were killed by non-whites, while 373 of the black victims were killed by whites (Crouch 1984). This evidence shows that freedmen rarely resorted to murdering white Texans.

Prior to and during the Civil War, the Texas prison in Huntsville held a small number of prisoners; nearly all of them white men. After the war, the role of the penitentiary shifted dramatically: its role was no longer simply to house criminals. The Texas prison became one piece of the state's post-Civil War efforts to control the labor of former slaves. For blacks, freedom meant choosing when, where, and how they worked (Gutman 1976). When labor contracts proved difficult to enforce, the Texas legislature turned to Black Codes to make not working under a labor contract illegal for blacks. Planters in the South resorted to numerous legal and extralegal means to control black labor. Vagrancy laws, sharecropping, tenancy, and debt peonage all served to force blacks into plantation labor or at least into the production of profitable crops. Because these arrangements did not solve the perceived labor problem in Texas, many planters turned to convict leasing. The origins of the convict lease system began in the post-war efforts to control black labor and to punish freedmen who refused to comply.

After the Civil War, Texas's once profitable agricultural system was devastated as thousands of acres of previously cultivated sugar and cotton fields lay fallow. Planters had not only lost their laborers; the war had destroyed the market for their crops. From 1860 to 1870, value of farms in Texas decreased from over $88 million to about $60 million (Miller 1916). When a planter went under, he usually blamed troubles on "free Negro labor" (Rice 1971). Cotton production dropped from 431,463 bales in 1859 to 350,628 in 1869, and prices dropped from $0.43 per pound in 1865 to only $0.17 in 1870 (Rice 1971).

Recently freed slaves were not inclined to perform plantation labor, especially sugar work. Plantations, whether growing cotton or sugarcane, needed a large, readily available workforce at various critical points in the year. Fort Bend, Brazoria, Matagorda, and Wharton counties made up the "Sugar Bowl" of Texas. Planters in these counties, recovering from the effects of the Civil War, relied heavily on sugarcane, as it was their major source of income (Johnson 1961). Sugar production was labor intensive and depended upon a coerced labor force (Schwartz 1985). One Fort Bend planter complained, "[i]n a great majority of instances the Negroes have worked listlessly and to kill time, instead of [killing] weeds" (Johnson 1961). Plantation owners all over the South complained that freedmen did not work as hard as slaves had and were unreliable (McKelvey 1934). Planters' reluctance to pay the higher wages demanded by ex-slaves contributed significantly to the perceived labor shortage (Rice 1971).

Although the Texas codes did not refer to racial distinctions, they were designed to control the labor of freedmen (Rice 1971). Laws regulating labor made it next to impossible for freedmen to switch employers. Once the employee made a contract, it had to be fulfilled (Rice 1971). Enticement laws made it a crime to try to “lure” away another person’s contract laborers. Texas had particularly harsh vagrancy laws. A vagrant was defined as any “idle person, living without any means of support, and making no exertion to obtain a livelihood, by any honest employment.” Also included in the vagrant category were fortunetellers, prostitutes, gamblers, beggars, and habitual drunkards who neglected their families. The state or county could fine convicted vagrants up to $10 plus court costs, and they were not released until they had paid those fines. If they could not pay, they were to “be put at such labor” as the county or town saw fit to provide. Convicts earned a credit toward their fines at the rate of $1 for every day that they worked. State and County laws mandated that local sheriffs supply the names of suspected vagrants. Working from these lists, the state had periodic “vagrant round-ups,” especially during times of labor shortages (Cohen 1991). It only took a complaint, in writing, from a “credible person,” meaning a white person, to have someone arrested for vagrancy in Texas (Gammel 1898).

If vagrants refused to work to pay off their fine, the county or city confined them with only bread and water until they agreed to work. This sometimes led to indefinite periods of incarceration, as time served while refusing to work did not count towards the fine owed the state (Gammel 1898). Whites also expected black women to work in a manner they found acceptable. If they worked with their family at subsistence farming, they were subject to arrest for vagrancy (Kerber 1998). White women did not face similar requirements. Black men wanted to keep their wives and daughters out of the fields, but this was far from acceptable to white planters who demanded cheap, controllable labor, male or female. The state enforced vagrancy statutes against black females with vigor. According to Kerber, many of these women remained under county jurisdiction while they performed their labor. The Texas Prison used the few women incarcerated during this period as domestic servants for prison employees or for townspeople in Huntsville.

The Texas legislature increased the penalties for misdemeanors to the level of lesser felonies. For example, the punishment for the theft of property worth $20 or less was increased to imprisonment in the county jail for a period not to exceed one year. While in jail, the county could put prisoners to hard labor (Gammel 1898*,* 200-201). This legal change certainly increased the number of convicts who were unable to pay their fines. The more men were unable to pay the fine, the more forced labor was available for local planters. Incarcerating men for minor offences, however, was very costly to the state. A black man accused of stealing $1.50, for example, spent three months in jail. Another got 60 days for stealing a turkey worth $0.75, at a cost to the state of $97.52. The state incurred $200 in costs for a young black man convicted of stealing a watermelon (Rice 1971). These expenses could be greatly reduced if a local planter agreed to purchase a convict’s labor. As a result, an increasing number of convicts served their time and paid off their fines on area plantations.

Pauperism also pushed counties to enforce vagrancy statues. Each county was responsible for the upkeep of its paupers. Two-thirds of all paupers in Texas were African-American (Rice 1971). County officials had a monetary interest in removing them from the pauper roles and placing them within the

prison system. County convicts were often worked at poor farms alongside the able-bodied poor. African-Americans suffering from mental illness were usually treated as criminals and rarely sent to the insane asylum.

With Governor James Throckmorton leading the way, on November 9, 1866, the Republican-dominated Texas legislature passed an *Act to provide for the employment of convicts for petty offences*, which allowed convicts to be used as labor on public works (Gammel 1898,119-120*)*. All Texas counties could use the labor of convicts kept in their jails for local public works. If a jury later found the person not guilty, he or she was supposed to receive at least $0.25 per day for labor they performed.

On November 12, 1866, the legislature passed a law for the *Employment of Convict Labor on Works of Public Utility (*Gammel 1898, 192-195*)*. In addition, the legislature established the Board of Public Labor, whose job was to make contracts with private interests for the use of inmate labor. The state classified prisoners as first or second-class, the former included murderers, arsonists, and horse thieves, the latter all other non-violent crimes. Only second-class convicts could work outside the prison walls. The superintendent of the Board of Public Labor organized the convicts into gangs of at least 20 to work for the public's benefit. Lawmakers loosely defined this to include railroad work, mining or working in an iron foundry that supplied railroads, roadwork, or farm work. This was the state's first attempt to lease prisoners and to keep them under state control. The Board of Prison Labor made contracts with individuals and companies to use convict labor. The state was to provide clothing for all convicts outside the walls. In 1867, the Airline Railroad and the Brazos Branch Railroad leased 250 convicts and paid the state $12.50 per month for each laborer (Walker 1988). These arrangements did not prove satisfactory to the railroad or the state (Lucko 1999). Although the law approved the right to use a ball and chain on leased convicts, there were a large number of escapes and deaths while attempting to escape from both railroad camps. At this time, there were over 200 former slaves in the penitentiary, and this increase of "idle" freemen certainly contributed to the legislature's desire to work convicts.

In 1868, Edmund Davis, part of the radical branch of the Texas Republican Party, served as the President of the state's Constitutional Convention, and in that capacity, appointed a five-man commission to report on prison conditions (Walker 1988). This committee recommended that the state lease the prison to private interests. That resolution required the Governor to lease the penitentiary for not less than five years and not more than ten. The lessee was to pay all costs of operation, including transporting convicts and constructing buildings as needed. The state would complete an inventory before and after the lease and pay the lessee the difference in value. One of the committee members was Nathan Patton, a Galveston businessman, who, in a few short years, would benefit personally from the prison lease when Edmund Davis became Governor in 1870.

The state entered into a lease agreement with James A. McKee, a Galveston businessman involved in the Galveston Canal Company in October 1868 (Gammel 1898). McKee hoped to attract investors to improve the textile machinery at Huntsville, but he was largely unsuccessful, and the lease was terminated three months later (Lucko 1999). In 1869, the legislature earmarked $25,000 to support

the penitentiary (Miller 1916). Since there was no lease in place, prison officials entered into several contracts to lease convicts to Huntsville citizens and several railroads.

In May of 1870, the Prison Inspector, N.A. Dudley wrote Governor Davis complaining about the treatment of convicts at the Houston and Texas Central Railroad camp (Dudley 1870). Dudley praised the railroad managers, especially Mr. Baker, and blamed all the problems at the camp on Captain Stevens, a state employee who oversaw the convicts. Stevens apparently wanted to be released from his contract with the state, asking to be "relieved of this disagreeable duty." Dudley also blamed the camp doctor who, he insisted, had failed to provide several convicts with adequate medical treatment for measles. The doctor rarely visited the camp and left an untrained convict in charge when he was not in attendance. Convicts complained to Dudley that the doctor forced them to work even when they were ill.

Dudley's letter provides information about conditions at the Texas Central Railroad Camp. The temporary building where the convicts slept contained three-tiered bunks and appeared well ventilated. The inspector believed there were enough guards, to whom he referred as "overseers," not inadvertently evoking an image of slavery. Dudley claimed that bedding and clothing were "sufficient," but not as clean as necessary. He reported that the clothing provided for the convicts was so old that if a convict were to escape, he would be hard to spot, as the stripes had all but faded from the prison uniforms. He suggested that the prison proper make the clothing for convicts working at outside camps, but that those leasing convict labor bear the expense (Dudley 1870). The fact that guards left several large barrels filled with human excrement inside the building must have contributed to the stench, as did rotting pieces of meat left scattered about the floor. There were also partially processed hides left in front of the mess room. Although the mess room was not clean, it had plenty of room and sturdy benches and tables. The food served was adequate and fresh, and better at this outside camp than at Huntsville.

Dudley recommended that the state lease more convicts to the railroads. He argued that the conditions at Huntsville were cramped and unhealthy; there were only 238 cells (each designed to hold only one convict) for 324 convicts. The cells were poorly ventilated and only 5 feet by 8 feet in size. Since the textile factory could not get enough raw cotton to process, too many convicts were idle. Dudley suggested choosing 125 "robust" convicts to work on the railroads because, he said, "They are all now idle, earning nothing for the State (Dudley 1870)." He hoped the state could earn a profit by leasing more convicts to the railroads, but not until they made the necessary changes to the camps, and he offered to assume the responsibility for the convicts at the railroad. Dudley's arguments did not prevail, and the state did not renew the railroad lease contracts when they expired a few months later (Gammel 1898, Chapter CLIII section 10).

In his 1871 year-end report to the penitentiary's Board of Directors, prison Superintendent A.J. Bennett called his job "onerous" and believed that it was his "misfortune" to take over the job at a time when the state seemed to care little about the welfare of the prison system or the convicts (Texas State Penitentiary 1871). He blamed the legislature's failure to appropriate money to pay for the operation of the system. Bennett reported that, when he took over, the morale of the convicts was extremely low and that he needed to change handling procedures. Treated kindly, he claimed,

the convicts went about their work “cheerfully and willingly (Texas State Penitentiary 1871, 4).” He suggested that they change the looms at the prison so they could manufacture better quality cloth. Before the war, the largest market for convict-made cloth was slave clothing. In support of Dudley, Bennett confirmed that there were not enough raw materials provided to keep all convicts at productive work. He also complained that there were too few guards, and the salaries for guards were far below those paid by other states. Other “enlightened” states, he claimed, had at least one guard per eight convicts. On the subject of female convicts, Bennett said the few women in Huntsville caused more trouble and were harder to guard than the men were. The design of the buildings had forced him to house men and women together. Bennett requested funds to erect a separate building for the one white woman and ten “colored” women.

7.4.3 Shift to Leasing: Ward, Dewey, & Co.

The State of Texas made the first full lease in 1871, following the case of *Ruffin v. Commonwealth*, which came before the Virginia Supreme Court. Inmate Woody Ruffin, who had killed another convict while working on a chain gang, was tried, convicted, and sentenced to death. He appealed the death sentence, arguing he had a constitutional right to be tried in the jurisdiction where the crime took place (Thomas 1988). In denying his appeal, the court stated, “during his term of service in the penitentiary… [a prisoner] is in a state of penal servitude to the State. He is for the time being the *slave* of the State” (*Ruffin v. Commonwealth*, 62 Va. 790, 796,1871). They also ruled that a prisoner was “civilly dead,” and forfeited all personal rights except those that “humanity accords” him (Thomas 1988). Other states quickly adopted the Virginia ruling, including Texas. Although the Republican-led government had been pursuing a lease program since 1867, the Ruffin case bolstered their argument. If prisoners had no rights, then it was acceptable to force them to labor. In 1871, the Texas legislature leased the entire prison system, for a flat rate, to the Galveston-area business group, Ward, Dewey, & Company, of which Nathan Patton was one of the principal owners (Texas State Penitentiary, 1871). Most likely, this was a reward for the company’s support of the Republican Party, and for Patton’s influence with Governor Davis.

Andrew J. Ward was the director of the Port Authority of Galveston and the Bolivar Wharf and Cotton Press Company. His experience as the lessee of the Arkansas penitentiary from 1860 to 1863 was seen as an asset by the legislature.[1] The lease included the textile factory at Huntsville as well as the labor of approximately 500 prisoners (Texas State Penitentiary, 1871). Ward, Dewey, & Company used some of the convicts on their private farms, and sub-leased others to area planters and railroad companies. In return for the use of the prison facilities (the textile factory and grounds) and prisoner labor, the lessees agreed to pay the state $5,000 per year for the first five years, $10,000 per year for the next five, and $20,000 per year for the last five years of their contract (Gammel 1898,192-195).

[1] Historians have debated whether A.J. Ward, the Texas prison lessee and A.J. Ward the Arkansas prison lessee were the same person. A check of the 1860 census of Pulaski County Arkansas, the 1870 Census of Galveston County Texas, and the 1880 Census of Walker County Texas prove that they are the same man. See also, Walker, *Penology for Profit*, 29 and Jane Zimmerman, “The Convict Lease System in Arkansas and the Fight for Abolition,” *Arkansas Historical Quarterly* 8 (Autumn 1949), 172.

The state was also in a financial mess. In the face of a growing state debt and increasing tax burden, the new Governor, Richard Coke, cut state spending in an effort to balance the budget (Miller 1916). The financial Panic of 1873 only exacerbated the state's financial woes. Coke inherited a budget shortfall in excess of $1,000,000. Considering these financial problems, there was little interest in changing the prison lease system to a more costly state-operated system. The problems reached deep into the prison system. County officials and residents discussed various ways to lessen the burden on counties, including the use of the whipping post as punishment for misdemeanors. The fear, however, that black sheriffs may have the chance to whip white convicts ended further discussion of that punishment (Rice 1971). Although county convicts were being shifted into the penitentiary system in increasing numbers, those who remained in county custody were hired out to pay for their upkeep. The cost of food alone forced many counties to hire out convicts for $1.50 per day. In 1875, the legislature allowed county prisoners convicted of misdemeanors to volunteer to labor on public works and be credited with $0.50 per day.

It soon became evident that the Ward, Dewey, and Patton lease was an unmitigated disaster (Mancini 1996). There were numerous complaints about the handling of the penitentiary from prison employees, citizens in Huntsville, and convicts. However, the abuse of convicts first came under public scrutiny after the *New Orleans Times* published an article about the horrible condition of 67 military prisoners transferred from Texas to Kansas. Ward insisted the company had been maligned by the press, and that the source of the story was the work of either a disgruntled ex-employee or an angry ex-convict (Texas State Penitentiary 1874).

It is clear that, while in the Texas prison system, the unfortunate military convicts had suffered starvation and abuse (New Orleans Times, 20 March 1875). An 1874 report from the Kansas Board of Public Institutions came to the same conclusion (*Annual Report*, 1874). Several of the prisoners accused Ward of personally abusing them. Since the lease was not due to expire until 1881, Coke called for an investigation to determine if there were grounds for early termination of the lease (Texas State Penitentiary 1875). In response to the public outcry, the Governor and the legislature investigated the prison system and drew up new regulations for its operation. This scandal, coupled with the Republican leanings of the lessees, spelled the end of the Ward, Dewey & Co. lease. A self-supporting penitentiary, however, was not a Republican dream that died with the advent of Democratic rule in Texas.

Even before the investigation, the regular monthly reports of Jonathan Campbell, the first prison inspector appointed by and reporting directly to the Governor, highlighted widespread neglect and abuse.[2] In January 1875, Campbell reported that the convicts were not being properly fed. This led

[2] There are handwritten reports that were filed monthly, which give much greater detail, and a printed report that covers 1874-1876. *Monthly report, [1870s], Monthly report, January - April 1875, Monthly reports, May - July 1875, Report on condition of convicts at O.H. & R.R. camp: June, July, August, September 1875, Report on lessee failure to comply with their contracts, October 1875,* Superintendent/Inspector, Reports, Records relating to the Penitentiary. Archives and Information Services Division, Texas State Library and Archives Commission. *Directors, biennial report, March 1874 - March 1876* Directors/Commissioners, Reports, Records relating to the Penitentiary. Archives and Information Services Division, Texas State Library and Archives Commission. (hereafter cited as *Report*, followed by the month and year).

to what he called a disturbance on January 16. Because the men did not act in a planned or coordinated manner in this violent protest, Campbell did not believe it was a mutiny. Although there are no specific details, it is likely the convicts refused to eat the food that was of poor quality and not well prepared. Ward responded by placing guards in the mess hall (Texas State Penitentiary 1875). Campbell also reprimanded Ward over the clothing supplied the convicts. Ward claimed to have sent over 1,000 suits of convict clothing to outside camps. Campbell exposed Ward's lie, reporting that the tailor shop only produced 523 suits. Campbell even investigated to determine if the lessees had sent old clothes to the outside camps, which would have violated his contractual obligations. Campbell's dislike of the lessees, especially Ward, is evident in this report. He claimed that, while the prison directors had faith in Ward's honesty, he had none.

Punishment in the stocks was of a particular concern to Campbell. Unlike the old stocks that only secured the wrists, the new ones held both the wrists and ankles. Campbell feared that in the hands of brutal guards, the new stocks could easily break a convict's neck if the stocks were raised, and the ankles were held fast (Texas State Penitentiary 1875). These observations served as an ominous forewarning.

Campbell and Ward clashed over the death of a Mexican convict named Garcia working on the Alston farm, owned by Ward and Dewey (Campbell 1875). Garcia suffered for several days from typhoid pneumonia before being transported to Huntsville, where he soon died. Campbell claimed Garcia was forced to work while dangerously ill and was denied treatment. Ward wrote to Governor Coke defending himself against Campbell's accusations. He claimed Garcia refused to be transferred to Huntsville and had never complained about being sick to any of the convicts working near him (Ward 1875). Ward's letter was the beginning of his efforts to defend himself against charges of mismanagement leveled by Campbell. These complaints were sufficient motivation for Governor Coke to call for an investigation of both the penitentiary system and the lease. The state of Texas had, he said, more convicts than any other state in the Union. The penitentiary could hold only a fraction of the inmates currently in the state's custody. As a result, the state had no alternative but to work convicts outside the prison walls. It was in the state's best interest, the governor believed, to lease convicts to persons who could take care of them and treat them fairly (Texas State Penitentiary 1875). The original lease did not allow the lessees to use convicts outside the prison walls (Texas House of Representatives March 22, 1871). When the legislature first approved the lease, the State was not supposed to give up ultimate control of the convicts. While the act allowed the lessees to direct the labor of convicts as they saw fit, it did not allow prisoners to work outside the penitentiary. In 1873, as the prison population soared, Ward, Dewey, & Company appealed to the legislature to alter their contract (Gammel 1898, Chapter CXXIX). As a result of the financial Panic of 1873, railroad companies in Texas no longer needed the labor of convicts, so many were returned to Huntsville. The lessees argued that they were unable to employ all of the convicts inside the walls, which created an impossible burden as the state expected them to support all convicts whether they could work or not. Ward claimed they would soon be bankrupt if they could not arrange to lease convicts to outside enterprises. The lessees believed the state could not terminate the lease until the contracted date, but Coke assured the legislature that since the lessees had not fulfilled their obligation to support the convicts as directed, the state was within its rights to terminate the

lease early (Texas State Penitentiary 1875). Coke went on to recommend that the state purchase more land to build another penitentiary and that all but the most heinous and violent offenders be worked outside the prison walls. The governor expressed shock at the conditions of the prison. He demanded that “promiscuous mingling” between male and female convicts stop and some provision be made for juvenile convicts.

A bill before the Texas legislature in March 1875 made it unlawful for the lessees to lease prisoners in occupations that would compete with free labor (Texas State Penitentiary 1875*).* This bill, which forbade private corporations from using convict labor also provided for an increase in taxes to cover the upkeep of convicts. Because the new law increased taxes and made it difficult to find work for convicts, it came as no surprise that the legislature agreed to let Ward, Dewey, & Company lease prisoners outside the walls. It was the only way not to burden the taxpayers, who elected them, with the upkeep of convicts and the prison. In Governor Coke’s view, as “liberty had been bestowed upon our uneducated population,” the prison needed to have more agricultural work for them, as blacks were not fit for anything except agricultural labor (Texas State Penitentiary 1875*,* 67). Coke pointed to the fact that other states, such as Louisiana, used convict labor almost exclusively on sugar plantations.

The sworn testimony of convicts contradicted nearly every statement made by Ward and Dewey (Texas State Penitentiary 1875). The committee met at Huntsville on April 15, 1875 and spent four days interviewing Ward and Dewey, as well as guards (both current and former), the prison doctor and chaplain, convicts, and Huntsville citizens.

Nearly all of the convicts testified that the food served was at best serviceable and at worst maggot-infested and unfit for consumption (Texas State Penitentiary 1875; Texas State Penitentiary 1874). Convict William Posey responded to the statement by investigators that he looked “fat and well,” by saying, “Oh, a man can eat stinking meat and yet look well” (Texas State Penitentiary 1874, 26). While the lessees claimed they served a variety of plain, yet healthy food, prisoners, and many of the guards testified that there was little variety and that the diet contained few vegetables and did not provide enough to keep convicts healthy enough for hard work (Texas State Penitentiary 1875). Because the state and the lessees were both concerned about the amount of work convicts performed, it would have been in both of their interests to provide a healthier diet. Yet, the lessees were more concerned with cutting costs. In fact, one convict told investigators that Ward had threatened to shoot any man who dared tell the Governor the food was bad, and several men reported guards abused them for complaining about the food (Texas State Penitentiary 1874, 31).

Clothing was mostly adequate for summer, but convicts were severely underdressed for winter. The lessees did not provide underclothes or socks for convicts, and many went barefoot (Texas State Penitentiary 1875). There were multiple cases of frostbite in the winter, as guards forced convicts to labor barefoot in the snow on railroad camps near Dallas (Texas State Penitentiary 1875; Texas State Penitentiary 1874). In addition, cells were “filthy” and unheated (Texas State Penitentiary 1875; Texas State Penitentiary 1874, 75). In contrast, the lessees testified that the cells were comfortable and so clean they did not smell any worse than a private home (Texas State Penitentiary 1874, 157).

The laws of the state clearly outlined the modes of punishment allowed at the penitentiary. The 1848 *Act Establishing the Penitentiary* demanded humane treatment for all convicts, while the *Penal Code* enumerated modes of punishment allowed in the system (Texas State Penitentiary 1875). While closer confinement, the use of leg irons, and removal of privileges were accepted modes of punishment, the statute specifically forbade shaving a convict's head or administering lashes without permission. In fact, prison regulations only allowed whipping as a last resort, and only after obtaining permission from the prison director. Punishments not specifically approved, under the 1848 Act or the Penal Code, were illegal. Testimony from guards and convicts proved punishments far exceeded legal limits.

The published testimony of the military prisoners covered the use of the dark cell, stocks, the "horse," the whip, and physical assaults from guards (Texas State Penitentiary 1875). The unpublished testimony shed further light on punishment. Prison officials seldom used the dark cell, according to the report, and the committee could find little to object to in its use. The dark cell was a 5-foot-by-7-foot room with chains to secure prisoners to the floor (Texas State Penitentiary 1874). The only difference between the dark cell and any other cell in Huntsville was the iron door that blocked out light, and made the room poorly ventilated, a view confirmed by the prison physician. Often prisoners in the dark cell received light rations of bread and water. To Ward, the "dark cell would not be much punishment to a negro. He would go to sleep and get fat and the longer he stayed the better he would be pleased" (Texas State Penitentiary 1874, 141). A week in the dark cell, he reasoned, was not nearly as bad as spending a week in the Austin jail.

Stocking was a regular form of punishment, both inside the prison and at the outside camps. Unlike the stocks used during the colonial period, which were designed largely to shame those guilty of crimes, those used in Texas were meant to punish or to make convicts more compliant. Guards often placed convicts in the stocks with their feet barely touching the ground. When they were too weak to stand and the muscles in their legs cramped, their full weight would press their neck into the stocks, choking them. One former guard testified convicts were only kept in the stocks until "they were humbled or promised to be obedient" (Texas State Penitentiary 1874; Texas State Penitentiary 1875). However, convicts testified that guards routinely kept men in the stocks until they passed out. At least four convicts were killed in the stocks. One of the military convicts, John H. Smith, testified that two black convicts at the Lake Jackson plantation died after half an hour in the stocks (Texas State Penitentiary 1875). In another incident at the penitentiary tan yard, Thomas Jefferson died after he was released from the stocks (Texas State Penitentiary 1874). Guards claimed, and the coroner's jury agreed, that Jefferson broke his neck while in the stocks (Texas State Penitentiary 1875). Dr. Rawlings, the prison physician, testified that Jefferson died because he was too heavy and jerked his body while in the stocks. Ward suggested that the man committed suicide. After hearing testimony that Jefferson was murdered to cover up a theft by one of the guards, the investigating committee concluded that the convict was killed in this "instrument of torture (Texas State Penitentiary 1875, 101)." At the time of his death, Jefferson had only 17 days left to serve on his term.

The stocks were brutal, but whipping was sadistic. Guards had no authorization to whip convicts at will; permission had to be granted by the prison Director before lashes could be administered. Guards rarely complied with this rule under the Ward, Dewey, & Company lease (Texas State Penitentiary 1875). The committee seemed most concerned that guards whipped convicts without a “distinction on account of race, color, or previous condition of servitude” (Texas State Penitentiary 1875, 103). They apparently believed that since blacks had suffered this punishment as slaves, they were better able to handle it than were white convicts. The committee reported seeing a 17-year-old black convict on the Patton plantation in Brazoria County who had recently been administered 604 lashes, with shocking scars on his back. The boy was whipped by Sergeant Smith so severely that he had to lie on his stomach for eight weeks because his back "could not have been more scared than if hot coals had been heaped upon his back." Campbell wanted to prosecute Smith, but he had left the farm. He informed Ward that Smith must never work for the prison again, but soon discovered that Ward had re-hired him to be a guard at the Overton and Henderson Railroad camp. Campbell sent a letter to Major Dewey asking that he dismiss the guard. Dewey ignored the letter and became enraged when Campbell asked him about it. The Inspector then sent an official request to Ward and Dewey, as well as copies to the Governor. The lessees allowed Smith to resign instead of firing him. Prison Directors Bush and Goree testified that Campbell had in fact informed them of this incident and they were satisfied that Smith was no longer working for the prison (Texas State Penitentiary 1874, 115).

The committee believed that if the law did not allow whipping as punishment for a crime, then there was little rationale or ethical reason to whip a convict for infractions of prison rules. They wrote, “…if whipping is too shocking to the public, too dehumanizing to be authorized by the Legislature for the *crime*, we cannot see the propriety of permitting it, not for the *crime*, but for the *infraction of some mere prison regulation*” (Texas State Penitentiary 1875, 103-105. Emphasis original). They argued that this was out of character for an enlightened age. The most damning testimony about whipping came from the convicts themselves. One military prisoner, William Price, testified that guards administered 500 lashes to a black convict named John Henry, after which they took him from camp and shot him to death. Another described the whip used at an outside camp as a strap about one and a half inch thick with holes along the length designed to raise blisters. He said that a black convict named John Harris tried to get a blanket from another convict and guards whipped him so severely he had blisters as large as a man’s hand on his back. Convict James H. Taylor testified that one man had been whipped numerous times with both straps and sticks and that fellow convicts often had to administer the lashes while others held down the man. This unfortunate convict declared he would rather die than be brutally whipped again, and the guard responded by pulling out his pistol and killing the man. His fellow convicts buried him where he fell, without a coffin. John H. Smith provided the story of one military prisoner named Lewis, who received such a severe whipping for trying to escape from the Lake Jackson plantation that he died after his transfer to Kansas. Guards had other convicts hold him down and took turns whipping him until he had received several hundred lashes. Convicts singled out Sergeant Schuchardt and Corporal Finnegan as especially cruel men who administered the fatal beating.[3]

[3] There are two different spellings of Schuchardt’s name in the records. Phonetically it is Shukard. Schuchardt was the guard transferred from Huntsville to Lake Jackson for choking a convict to death in the stocks.

At one of the outside camps, another black convict named George Franklin received 200 lashes with a leather strap soaked in water to make it more painful. He had open wounds about 8 inches wide across his buttocks (Texas State Penitentiary 1875). Franklin was unable to work and died within a month. In an especially disrespectful turn, the prison doctor recorded Franklin's death as the result of constitutional syphilis, not the crippling beating he received.

At the Overton and Henderson Railroad camp, Blakely, the sergeant in charge, worked a convict so hard he was no longer able to see the wooden plank path used to remove dirt with a wheelbarrow. Blakely whipped him, obviously without getting prior permission. The despondent man made it to the end of the path, picked up a hatchet, and attempted to chop off his own fingers. He did not succeed in getting them all the way off on the first attempt. When Blakely asked him what he was doing, the man said, “You are too late now.” He had been sawing back and forth until he removed his fingers (Texas State Penitentiary 1874, 44).

Various guards and convicts testified about a black convict named Wesley Holland, who was severely beaten and abused by Sergeant Veitch and Ward at one of the outside camps. Holland attacked a young guard named Paine with an ax, striking him in the head. Depending upon who testified, the guard had already died, was near death, or would recover. Several people reported Holland had died the day before the committee arrived. After striking the guard, Holland was brought to the penitentiary, where Veitch placed him in the stocks, and Ward used his walking stick to beat the man (Texas State Penitentiary 1874). One convict said he “beat him [Holland] senseless” and stabbed him in the eye with his cane. Veitch pulled Holland up in the stocks until he passed out, and then revived him by throwing water on him, and then Veitch stocked him again. After much abuse, guards chained Holland in the dark cell. He was brought out each day for three weeks and placed in the stocks for several hours, and then whipped. Ward admitted to the committee that he had indeed struck Holland, but only once. He said his passion got the better of him, as Holland had not only killed a good man, but had blamed it on another convict.

The committee addressed various other modes of punishment visited upon the convicts, from cursing, to the shaving of heads, punishments the Penal Act specifically forbade (Gammel 1898). There were many reports of guards kicking, striking, and hitting convicts with boards, sticks, and rocks (Texas State Penitentiary 1875). The committee reported that these unlawful forms of punishment were rampant in the outside camps, where their isolated nature tended to make such abuses more common. The committee lamented the difficulty of proving such allegations, making it impossible to dismiss or discipline cruel guards. Nearly all of the convicts, who testified, in both published and unpublished accounts, said that most of the guards cursed convicts and exercised their positions of power over them. Several of the military prisoners testified that certain guards were especially cruel and abusive.

The handwritten transcript of convict and guards’ testimony singled out three guards as especially brutal. Those most often mentioned were Sergeants Veitch, Blakely, and Shuchardt. In addition to working one convict so hard he cut off his own fingers, Blakely abused numerous other convicts. At the Overton and Henderson railroad camp, Blakely killed a Mexican convict (Texas State Penitentiary 1874). His abuse was so severe that the other guards hid some of the battered convicts from the

inspector and the committee when they visited. Another guard, E.C. Ward, said Blakely, a native New Yorker, was excessively cruel. To fellow guards, his Yankee origins may have served as an explanation for his cruel behavior. Blakely beat one of the military convicts, Taylor, with a board and then kicked him when he fell. Guard P.S. Harley testified he had seen Blakely strike a convict with a shovel, after the convict hit Blakely with it. Hartley also testified that while he worked at a railroad camp, Blakely killed several convicts. He had guards shoot and kill three men trying to escape. One man's body was not recovered immediately, and the guards later discovered wolves had eaten it.

All of the convicts, and many of the guards, hated the one-armed Veitch, a favorite of the lessees (Texas State Penitentiary 1874). Inspector Campbell fired Veitch at the main prison, but he was hired at the Lake Jackson plantation, where Campbell had him dismissed again, but Ward rehired him. At the time of the investigation, it appeared that Veitch was working as a night guard in Huntsville. One convict described him as "the most unfeeling man in the world." He did not limit his abuse to male convicts. Veitch beat women convicts, placed them in the stocks, and shaved their heads. He kicked one elderly woman, Mary, in the chest, knocking her down. A guard, J. B. Porter told the committee that Veitch "seems to take pleasure in inflicting punishment" (Texas State Penitentiary 1874, 48). Even a guard that had mostly good things to say about Ward and Dewey admitted Veitch was "crass and a little disposed to be cruel" (Texas State Penitentiary 1874, 52). Campbell described him as "a man capable of doing anything. He is drunken, immoral, and I would not believe him on oath" (Texas State Penitentiary 1874, 99). To Ward, however, Veitch was of good character, commenting that any guard who was hated by the convicts was obviously a good man.

The most shocking and cruel punishment uncovered by the committee was the use of the "horse." This device consisted of a vertical post with several holes bored into it so that a peg approximately 2 inches in diameter and 10 inches long could be inserted horizontally into them. One convict described this peg as resembling a pickaxe handle (Texas State Penitentiary 1875). Guards would place a convict astride the peg with his back against the post and his arms tied behind his back. The convict's legs were tied to metal rings secured to the ground to stretch them and place pressure on the peg. This pulled the convict's entire weight against the peg.[4]

The effect was to cause excruciating pain in the genitals. One convict claimed he "would rather be shot than endure the horse," as the "impression it made on the secret parts remained there for five weeks" (Texas State Penitentiary 1875, 102; Texas State Penitentiary 1874, 31). He testified that the "horse", was also called the "Spanish mule" because it kicks (Texas State Penitentiary 1874, 30). There were many reports made to the investigating committee about convicts fainting while on the "horse" and being unable to walk, as well as suffering permanent damage from the torture. One convict reported that he still suffered lingering kidney problems from his 15 minutes on the "horse" (Texas State Penitentiary 1875). Charles Orr, a white convict, told the committee the "horse" was the cruelest of all punishment and that it "hurts a man's privates" (Texas State Penitentiary 1874, 8).

[4] Special Committee on the Penitentiary, Report of the Commission Appointed by the Governor of Texas, April 10, 1875 to Investigate the Alleged Mismanagement and Cruel Treatment of Convicts. Texas State Library and Archives Commission.101-102. (This is the official description of the "horse." Convict testimony substantiates this description.)

John Connor reported he was “horsed” for over an hour for talking back to a guard. He claimed he was unable to stand and had no feeling in his testicles for three months. The guards placed a gag in his mouth to keep him from screaming while on the device, and another said a guard gagged him with a corncob. Connor also reported seeing other convicts “horsed” in the alley near the tan yard, until they were “ruined for life” (Texas State Penitentiary 1874, 14). Joe Phelps told the committee he had seen over 50 men on the “horse.” Another of the military convicts testified that he knew of two men who died after being punished on the “horse,” at one of the railroad camps (Texas State Penitentiary 1875). One of the outside railroad camps, run by a Captain Rains, had seven “horses” for punishment. On some days, they were all in use for most of the day.

J.B. Porter, a guard, actually tried sitting on the “horse” himself to see its effects. He reported that within 30 seconds the pain was severe (Texas State Penitentiary 1874). Another guard, Keenan Barret claimed convicts often laughed when first placed on the horse, because it seemed mild punishment. However, they soon became ill. Even Inspector Campbell tested the “horse” and immediately demanded its removal. Campbell dug the post out of the ground himself. He said it was the severest punishment inflicted at the penitentiary. Dr. Rawlings, who apparently wished to keep the good favor of the lessees, testified he had never treated anyone injured by the “horse,” which he said was never used in Huntsville, only at the outside camps, although there was much testimony that refuted this statement. Ward had very odd views on the “horse,” saying on one hand it was the only thing to control the worst convicts, and on the other that convicts laughed at the idea of it causing impotency. He described the horse as, “a non-descript animal, which does not take much to keep, but which I believe has been cut down and salt planted where it used to grow (a reference to Campbell’s removal of the “horse”). It is said to have made men tell the truth quicker than anything else and make him very sorry he committed an act to get atop of it”(Texas State Penitentiary 1874, 142) The committee was unanimous in its condemnation of the “horse” as an instrument of torture (Texas State Penitentiary 1875).

Citizens, the investigators, and Campbell were all concerned about the large number of escapes from the outside camps. Citizens suspected trustees of escaping with regularity. Convicts reported that it was easy to run off when the guards were either asleep or intoxicated. In the spring of 1875, at a railroad camp, a civilian attacked a guard and helped several convicts make their escape (Texas State Penitentiary 1876). There were multiple reports that guards shot and killed or wounded convicts trying to escape (Texas State Penitentiary 1874). Ward justified these shootings by saying they did not have any more men killed while trying to escape than the state did prior to their lease. According to Campbell, the prison buildings in Huntsville were so dilapidated that an able-bodied man could easily escape by chopping through the wall.

The committee also discussed the reason why Texas had so many convicts, relative to other states. Compared to other states, Texas had the largest proportion of its population in prison (Texas State Penitentiary 1875). By 1876, five years into the leasing system, there were 1,700 prisoners. This calls into question whether there was a real increase in crime, or whether the increase reflected a demand for cheap, exploitable labor. A large number of convicts were black, and the committee felt they did not pose the same behavioral problems as hardened white criminals. Blacks, “whose training

in slavery had accustomed them to subordination," were easier to control. Since half of the prisoners were incarcerated for theft, the committee questioned the laws regarding theft and the sentencing for that crime. Even Ward addressed the issue of crime in Texas by pointing out that, what in many states was only a minor offense, was in Texas considered a felony requiring an unduly long sentence.

The official investigation seemed to have little effect on the behavior of the lessees. Customary release allowances were denied, the quality of the food continued to be poor, escapes remained an issue, and the buildings remained in disrepair. Ward and Dewey insisted that the investigation's report was the product of a personal vendetta against them (Ward, Dewey, and Company 1875). Campbell, they claimed, had either exaggerated or lied about events at the prison. Ward wrote the Governor: "The motives of his open hostility to us are well known to you, as to nearly everyone in Huntsville" (Ward, Dewey, and Company 1875). Campbell, Ward claimed, had destroyed the discipline of the prison by "his egotistical and almost criminal interference" (Ward, Dewey, and Company 1875) The lessees resented Campbell taking the convicts' word over those of the guards. While Campbell blamed the large number of escapes on lax discipline by the guards, Ward believed the guards were simply afraid to perform their duty for fear of dismissal. As to the charges that building repairs were still not completed, Ward said they were always working on them and the Governor already knew that to be the case.

Campbell filed his official report with Governor Coke on January 31, 1876. In it, he revisited many of the same issues covered in the 1875 investigation. At that time, there were 443 convicts inside the walls at Huntsville, and 1,280 outside. The lessees employed black convicts exclusively in agriculture. Ward and Dewey also worked some white convicts on their private property, Alston Farm in Walker County, where they also used long-term convicts. Campbell demanded that they be returned to Huntsville for closer supervision, but Ward and Dewey refused to comply (Texas State Penitentiary 1876).

Campbell criticized the failure to give discharged convicts the $20 and suit of clothing required by law. Major B.S. Wathen, the head of the Overton and Henderson Railroad camp, wrote Campbell that he had received a notice of pardon for an inmate on his railroad. He had neither money nor clothing to give the man, making it impossible for him to leave the camp. He begged Campbell to do something about the deplorable conditions, as they did not have enough food to feed the convicts. Campbell telegraphed the Rusk County sheriff and asked him to feed the convicts before they starved. The sheriff agreed, and informed Campbell that the citizens of Rusk, out of charity and pity, had been collecting food to feed both the convicts and the guards for some time (Texas State Penitentiary 1876). The guards had not been paid in several months and had resorted to selling their timecards for pennies on the dollar. At another camp, the sergeant refused to work the convicts, as they did not have enough food and were too weak to work. Campbell implored the Governor to take immediate action, especially since white convicts were forced to work barefoot on the farms.

A few months after the publication of the 1875 investigation findings, bowing to public pressure and continued complaints by Campbell, Governor Coke called for yet another investigation into the prison. In spite of a multitude of abuses that remained unresolved, Ward continued to complain that he did not make enough profit and was therefore unable to make the lease payment to the state

(Texas State Penitentiary 1871). After expenses and the cost of supporting non-productive convicts, Ward claimed the lessees only netted $60,000 per year, and this was only possible by leasing to outside camps.

In the summer of 1876, the Texas House of Representatives received the *Report of the Special Committee on the Penitentiary*, which was read into the House record (Texas State Penitentiary 1876b). They reported that there "exists the very highest necessity for change at once, speedy, radical, and permanent" (Texas State Penitentiary 1876b). The lessees and their employees were deliberately cruel to the convicts. The food was "nauseating" and the hospital was not fit for healthy men, let alone those who were ill.

In 1876, approximately 300, over 17 percent, of the 1,723 convicts escaped. The death rate was even more shocking. One hundred and nine died from disease, mostly malaria but also from measles, smallpox, and pneumonia.[5] Guards killed 28 convicts, and even more troubling, 182 were unaccounted for by officials (Texas State Penitentiary 1876a). This indicated poor record keeping by the outside sergeants. Inspector Campbell reported that of the 300 escapees, 266 were still at large. He estimated that the cost to the state, before a convict did any work, was close to $1,000. This included transportation, clothing, and other processing. That meant the lessees negligence cost the state $266,000 for the at-large escapees who provided no labor for the state.[6]

7.4.4 The End of the Ward, Dewey & Co. Lease

The committee then urged the legislature in the strongest terms to end the lease and have the state resume control of the penitentiary (Texas State Penitentiary 1876). The legislature finally terminated the Ward, Dewey, & Company lease in August 1876 (*House Journal***,** August 1876). Historian Donald Walker argued that they lost their lease, not for the obvious abuses, but because of their Republican loyalties (Walker 1988). There were certainly enough instances of abuse to terminate the lease in 1875, so why did the legislature wait until 1876 to end the Ward, Dewey, & Company lease? There was a great deal of negative publicity about the lease, both local and national. If the Republican ties of the lessees were the only factors, the Governor and the legislature could have ended the lease in 1875, because the government was already firmly in the hands of the Democrats. The deciding factor in continuing the lease in 1875 might have been the legislature's reluctance to increase taxes in order to reform the prison system. The state constitution of 1876 reduced the salaries of state employees across the board (Miller 1916). For example, the Governor's salary was $5,000 in 1869 and only $4,000 in 1876. If the politicians could not pay themselves more, they certainly would not

[5] Johnson, *A Short History*, 21 "The river bottom sugar plantations were notorious for their unhealthy conditions during the summer months. To avoid malaria, most of the planters left their plantations for towns or the prairie."

[6] In comparison, during Mississippi's first convict lease contract, the state shipped the first group of 146 black convicts to Edmund Richardson's uncleared swampland in the Mississippi Delta. The Mississippi Penitentiary Report of 1871 casually reported that 119 convicts had escaped from Richardson's care since 1868, and "dozens more had died of gunshot wounds and disease." In 1876, the Mississippi legislature passed the Leasing Act and promptly leased out more than 1,000 black prisoners. The state legislature of Mississippi did not care about convict abuse any more than Texas did. See Oshinsky, *Worse Than Slavery*, 36, 41.

vote to spend more money on convicts. By the summer of 1876, there was no longer any way for the legislature to ignore the abuses perpetrated by the lessees. They would cancel the lease, but they were not ready to give up the idea and looked for another, more competent lessee.

While Northern prisons began to focus on reform of the convict and regimentation of the prison, prison officials and legislators in Texas continued to focus on getting more profitable labor out of black convicts. In spite of prison reform as a heated topic amongst reformers, in Texas there was little attention paid to these issues.

In Texas, the failure of the first lease was blamed not on the system, but on the lessees, Ward and Dewey. Elmira relied on a system of punishment for infractions of prison rules. They used the whip most often, as 30 percent of all inmates were lashed at some point during their incarceration. Officials did soak the whip in water, claiming it lessened the pain. Considering that water would make the whip weigh more, this claim seems disingenuous.

In Texas, few convicts were utilized in road work. Those that were came from the county jails and worked in the county of their conviction. Southern states also relied heavily on leasing convicts to railroads, and Texas was no exception. (Ayers 1984). Railroad development benefited the entire state, so the government had an interest in not only financing them but guaranteeing a labor force to build them.

In spite of the horrific experience of the first penitentiary lease, the state of Texas was not willing to give up on the idea of a self-supporting prison. The Texas legislature revoked the Ward, Dewy, & Company lease in August 1876 and the state resumed control of the penitentiary (Texas House of Representatives *April 18, 1876)*. Governor Richard Hubbard, with the backing of the legislature, decided to award a temporary lease, and accept bids for that purpose (Neilson 1957; Duncan 1974).

Hubbard worried that the system could not hold all of the convicts. In the summer of 1877, there were 1,601 convicts. Huntsville could accommodate only 400, and the prison under construction at Rusk was designed to hold 500 men (Duncan 1974). Hubbard considered himself a “law and order” man at a time when Texas had a reputation for being lawless and wild. The governor was confronted by a host of other pressing problems. Since no one was going to argue that fewer criminals be arrested, and the penitentiary could not hold the convicts already in custody, Hubbard was well aware that the leasing of convicts was the only option available to the state, and that a new permanent lease was needed.

In preparation for a new lease agreement, the Governor demanded that an inventory be taken of the state’s property returned by the former lessees. He wanted an exact accounting of what property the new lessees would have (Duncan 1974). He appointed Thomas Jewett Goree resident superintendent of the penitentiary and Judge J.E. Shepard, H.K. White, and J.T. Gaines as commissioners. Goree was a former captain in the Confederate army, serving under General James Longstreet (Houston Chronicle, 6 March 1905). Before his appointment as superintendent, he was a partner in a general store in Midway, Texas, and later joined Leonard Abercrombie in a law practice in Huntsville (Goree and Hardin 2010).

Hubbard did not want the state to incur the cost of running the penitentiary while a permanent lease was being negotiated. He asked Judge Shepherd to examine a proposal made by J.H. Burnett and J.D. Kilpatrick of Galveston for the temporary lease (Neilson 1957). The firm, which posted a $20,000 bond, appeared to have sufficient capital and experience to operate the penitentiary (Duncan 1974). Once the appraisal of the penitentiary was completed in July 1877, the Attorney General informed Hubbard that Ward, Dewey, & Co. owed the state $72,817.10. A copy of the appraisal was sent to the former lessees, but they did not respond. The state sued. After nearly a year of negotiations, Ward, Dewey, & Company settled with the state by paying $15,000.

While trying to work out a settlement with Ward and Dewy, the Governor became suspicious about the financial stability of Burnett & Kilpatrick. They wanted to complete repairs, make other improvements to the prison, and be fairly compensated for the work. There was a lease payment coming due to the state, and the lessees wanted to make the repairs in lieu of the payment. Hubbard thought it a good idea, as he feared the lessees may not have the money, and this course would avoid costly legal actions to force payment (Duncan 1974). Hubbard wanted the agreement in writing and for the work to be approved before any “payment” could be credited.

Sometime in November 1877, Thomas Goree, the superintendent, wrote to Governor Hubbard regarding the temporary lessees. Goree apparently told Hubbard that the lessees were not conducting themselves as expected. It appeared that Burnett & Kilpatrick had established a secret partnership with A.J. Ward, the former lessee, which the governor was not privy to. Hubbard made it known that he had lost faith in Burnett & Kilpatrick because of their association with Ward, who owed the state money and had abused his lease.

This was not the end of Hubbard’s problems with Burnett & Kilpatrick. He had been accused of misconduct in 1876 when he was in the legislature, for allegedly taking money from two businessmen in exchange for introducing legislation favorable to them. Hubbard denied the charges, and they were temporarily forgotten (Neilson 1957). After he was elected as Lieutenant Governor in 1875, several newspapers accused Hubbard and Richard Coke, who was elected Governor, of conspiring to get Coke elected knowing all along he would resign to run for the U.S. Senate, making Hubbard the Governor. Hubbard may not have been able to win the Governor’s race after the allegations of misconduct. After serving as Governor for less than a year, Coke won a seat in the U.S. Senate, and, as predicted, Hubbard became Governor.

Furthermore, it was shown that Hubbard had past business dealings with Burnett. Hubbard had borrowed money from Burnett, who had been his cotton factor for years. To several newspapers, this appeared to be nothing short of a bribe. Hubbard defended himself against these allegations, arguing that the firm of Burnett & Kilpatrick was an entirely separate entity from his cotton factor Burnett, and that the loan was against future cotton crops, not a bribe. He claimed that he had a 700-acre cotton plantation and had used Burnett as a cotton factor since 1865. He needed a loan and Burnett agreed to use a future crop as collateral (Neilson 1957). Although Hubbard may not have received a bribe, he certainly had a personal and financial relationship with Burnett that appeared to have factored into his decision about the temporary prison lease. Following Hubbard’s denial of any wrongdoing, a German language newspaper, *The Galveston Pots*, opened an investigation of

Burnett's cotton house. They discovered that the company had no office, kept no books, and had never received any cotton. They also looked into Hubbard's plantation and discovered it had only produced 15 bales of cotton. It seemed that Burnett "loaned" money to Hubbard, knowing it would not be repaid. Hubbard then made a statement to the press that even if he had done something wrong, the fact that he saved the state thousands of dollars by finding a temporary lease should count for something. Years later, a friend of Hubbard's said that the Governor always had financial trouble and never handled his money competently. Hubbard never repaid Burnett. These allegations hurt Hubbard at election time, and probably contributed to his defeat in the 1878 election.

Oran Roberts, a successful lawyer before the Civil War, won the election. An outspoken advocate of states' rights and firmly on the side of the secessionists, Roberts served as the president of the Texas Secession Convention in 1861. He served briefly in the Confederate army before returning to Texas to become Chief Justice of the Texas Supreme Court, a post from which he was removed at the end of the Civil War. During Reconstruction, Roberts was a delegate to the Constitutional Convention and was elected to the U.S. Senate. He, along with the entire delegation of southern Congressmen, was refused a seat in Washington. When the Democrats "redeemed" the state, Robert's fortunes were revived. In his 1878 gubernatorial campaign, Roberts called for fiscal reform. Although Hubbard had some success in cutting state debt, the prison lease scandal and increase in crime cost him the election. In office, Roberts reduced taxes and the state debt, and advocated a "pay as you go" system (Dixon 2010). This meant that the state coffers could not spare any money for the prison system and leasing would remain.

7.4.5 The Cunningham and Ellis Lease

The nine sealed bids made for the new lease were opened in December 1877. The penitentiary lease was awarded to the firm of Cunningham and Ellis. After submitting two separate bids, the two men joined forces to hold the contract jointly. The new partners were Colonel Edward H. Cunningham and Littleberry Ambrose Ellis, two prominent Texas sugar planters (Texas State Penitentiary, 1880). The partnership was formed in 1875 and had purchased several thousand acres of land in Fort Bend and Brazoria counties. There is some suspicion that the partnership was formed specifically to obtain the lease of the penitentiary (Armstrong 1991). One of the prison commissioners, H.K. White had worked for Ellis prior to his appointment as commissioner (Duncan 1974). This probably gave Cunningham and Ellis some edge in the bidding process.

The new five-year lease was to be in effect until January 1, 1883. Cunningham and Ellis were to have use of the prison grounds, buildings, and all property belonging to the penitentiary, in addition to the labor of the convicts, paying the state $3.01 per month per convict (Texas State Penitentiary 1880). Under the terms of the lease, they were required to feed, clothe, and guard the convicts, pay $20 to each convict released from the penitentiary, and provide a suit of civilian clothing. The state gave up direct supervision of the penitentiary and its convicts to the lessees. The only expenses the state would incur would be any costs over $35 to recapture escapees and to provide stationery and postage for penitentiary correspondence, including the one letter per week each convict was allowed to send. The last requirement seemed to be a constant source of vexation for the prison administrators, as they often complained about not getting enough stationery. The 1878 lease added

more money to the state's coffers in one year—$73,944.79—than all previous leases, more even than it cost to build the penitentiary (Zimmerman 1947). The Cunningham-Ellis lease seemed like the answer to the state's penitentiary problems.

Cunningham, originally from Arkansas, moved to Bexar County Texas in 1856 (Walker 1988). Within four years, the 25-year-old stock raiser amassed real estate valued at $6,000 and personal property valued at $18,000 (United States Bureau of Census 1860). Unmarried, Cunningham was one of the wealthiest men in his neighborhood. During the Civil War, he had formed the "Mustang Greys," an infantry unit that joined Hood's 4th Texas Brigade. He distinguished himself and was promoted to Colonel when Hood was promoted to Major General (United States War Department 1880-1901). After the war, Cunningham returned to Texas, and in 1875 purchased a 12,500-acre plantation from the heirs of Benjamin Terry and William Kyle, one of the largest sugar plantations in Texas before the Civil War.[7] Terry was killed in December 1861, early in the Civil War, and had left the management of the plantation to Kyle. Kyle died at his home in 1864 (Armstrong 1991). Cunningham also leased 700 acres of a nearby plantation. By the 1890s, he had built a 14-mile-long (22.53-kilometer-long) railroad that connected his property to other sugar growing areas along Oyster Creek, as well as a sugar refinery and a new sugar mill (Anhaiser 2010).

Ellis was born in Mississippi in 1827, and moved to Jefferson County Texas in 1859, where he opened a mercantile business (United States Bureau of Census 1860). The few sources on Ellis, written in the 1970s, indicated he also served with Confederate troops during the war and in Hood's Brigade and implied that he knew Cunningham from the Brigade. However, an exhaustive search of the records turned up no trace of Ellis ever serving in the Confederate Army, let alone being an officer. He also claimed that his grandfather, Ambrose Ellis, and his uncle, Richard Ellis were signers of the Texas Declaration of Independence. Richard Ellis was the president of the Convention of 1836 and did sign the Texas Declaration of Independence, but Ambrose did not sign (Ericson 2010). Starting in 1880, Ellis began purchasing large tracts of land in Fort Bend County, including 5,300 acres about 2 miles from Cunningham's land, which he called *Sartartia*, after his daughter (Walker 1988; Armstrong 1991).

Cunningham and Ellis were both loyal Democrats, and Cunningham at least had served in the Confederate military. They were much more to the liking of the Democratic powers in Austin. By charging Cunningham and Ellis a rate per convict, the state's income was tied directly to the number of convicts in the system. This certainly provided an incentive to increase the prison population. From 1870 to 1882, the number of prisoners in the Texas penal system rose from 503 to 2,300. Of these, 800 worked on sugar plantations in the four "Sugar Bowl" counties.[8] In 1880, Cunningham and Ellis worked 365 convicts on their Sugar Land plantations. Ellis had two additional plantations on which he worked 98 convicts. Cunningham even worked 13 convicts at his ranch in Bexar County, near San Antonio, which was over 260 miles from Huntsville (Texas State Penitentiary 1880). Having

[7] Terry and Kyle formed the Terry's Texas Rangers during the war – they owned a large plantation in Fort Bend County. Armstrong, *Sugar Land, Texas and the Imperial Sugar Company*, 13.
[8] J. Carlyle Sitterson, *Sugar Country: The Cane Sugar Industry in the South, 1753-1950*, (Lexington: University of Kentucky Press, 1953), 317. The "Sugar Bowl" counties included Fort Bend, Wharton, Matagorda and Brazoria, and Galveston.

convicts such a great distance from Huntsville had been a source of complaints under the Ward-Dewey lease.

Using convicts, Cunningham and Ellis were able to create one of the largest sugar plantations in the country. A Texas Prison Investigating Committee reported in 1902, “Messrs. Cunningham and Ellis clearly demonstrated that money could be made out of convict labor” (Texas State Penitentiary 1902a). The state profited as well. The Cunningham-Ellis lease paid the state $367,339 from 1878 until 1882, or an average of $73,468 per year (Texas State Penitentiary 1882). While in contrast, the Ward-Dewey lease brought in $5,000 per year before it was cancelled, for a total of $20,000. Taking into consideration the costs incurred by the state for transportation of convicts and costs connected to escapes, the Ward-Dewey lease cost the state money. Ward and Dewey were also behind on their payments to the state. Under the temporary lease with Burnett & Kilpatrick, the state simply hoped to avoid any more costs, and they did not get any money from the lessees. Given the history of the lease system, it is little wonder the profitable Cunningham-Ellis lease was popular with legislators. Not only was the penitentiary self-sufficient, the money from the Cunningham-Ellis lease equaled nearly 3 percent of the state’s total receipts (Miller 1916). That is not a large percentage compared to other states where profits from convict leasing made up as much as 10 percent of the state’s revenues, but when the cost of running the prison is factored in, this provided a significant financial incentive (Adamson 1983). Texas not only did not have to pay to run its prison system, it profited from it. Although money was a strong motivating factor during the development of the Texas prison system, there were other factors at work, specifically race. Like its antebellum predecessor, the plantation system used so successfully by Cunningham and Ellis was a form of racialized labor control. From 1870 to 1880, the convict population in Texas grew from 489 to 2,157. By 1900, the numbers had swelled to 4,109. Although African Americans never made up more than 31 percent of Texas’s population in this period, the percentage of blacks in the prison population hovered between 50 to 60 percent (Texas State Penitentiary 1870; Texas State Penitentiary 1880; Texas State Penitentiary 1900; Texas State Penitentiary 1912).

In 1883, at the end of the lease period, Cunningham and Ellis extended their partnership. They joined their acreage and built a 600-ton raw sugar mill, which they named the “Imperial Mill” (Armstrong 1991). One year later, they amicably dissolved the partnership, perhaps because Ellis planned to move to Austin (Armstrong 1991). Ellis kept 5,300 acres and the Imperial Mill, the operation of which he turned over to his sons. Cunningham kept 12,500 acres and the sugar mill that he updated when he bought the Terry-Kyle property. Cunningham subsequently bought more land and leased still more, bringing his total acreage to about 20,000. Although the Cunningham-Ellis lease expired in 1883, Cunningham continued to lease convicts from the state to work his Sugar Land plantation. He converted several of the old plantation buildings into a “company town,” with a rudimentary commissary. The northern part of the Ellis Plantation would later house the Central Unit of the modern prison. His plantation house was built by convicts and was later moved to Sugar Land, where, in 1906 it became the home of W.T. Eldridge, a later owner of Imperial Sugar.

Not only did the state relinquish control over these convicts, Cunningham and Ellis in turn passed on control to their sub-lessees (Mancini 1996). Under the Ward-Dewey lease, the state had little control

over the day-to-day operation of the prison. Under the Burnett-Kilpatrick lease, the state, in theory, had direct control. But lack of direct supervision by the state encouraged abuses in the system. Goree said of the lease system, "No one will attempt to deny that the system is an evil…under it there is little or no chance for reform. It can only be defended on two grounds: necessity and because it is a source of revenue" (Texas State Penitentiary 1880, 21).

Although the lease seemed ideal financially, it was not without troubles. About six months into the Cunningham-Ellis lease, reports to Governor Hubbard from the prison directors showed that conditions at the outside camps were dismal. In one letter, the directors informed the Governor that 26 ill convicts had been returned to Huntsville from various railroad camps. They reported that the men, who suffered from scurvy among other ailments, were "a truly pitiable spectacle." Since vegetables were readily available to the camps, the prison physician was at a loss to explain why there were cases of scurvy. The convicts complained that the food was often spoiled, and that meat was put out before they came in to eat. The directors also reported that at least one convict had been badly injured as the result of a beating at the hands of a guard (Bush, Goree, and Walker 1878).

Several convicts were returned in poor health from the Alston plantation, the laborers of which were mostly black.[9] Alston was typical of the outside camps leasing convicts from Cunningham and Ellis. This plantation, originally owned by James Hawkins, was one of the largest sugar and cotton plantations in the state, as well as one of the largest sugar mills in Texas. After the war, Hawkins increased his land holdings to close to 50,000 acres and continued to produce sugar and cotton, using convict labor (Leatherwood 2010).

The directors reported that the bedding was filthy. However, the most pressing complaint concerned "unlawful" punishments meted out at the farm. The directors found that guards frequently whipped convicts without permission and that they punished at least one convict on the "horse" (Bush, Goree, and Walker 1878). The prison directors had banned this mode of punishment during the Ward-Dewey lease. The directors believed they had enough evidence to have one guard, Charles Taylor, charged with aggravated assault and battery. They had evidence that two other guards, John Jordon and Richard Thompson, whipped convicts without permission. Although the directors promised to pass on this information to the District Attorney, there is no evidence that the guards were ever charged. There were also problems at the Thomason farm, owned by Dr. Joshua A. Thomason, who, at various times, leased between 60 and 99 convicts (Texas State Penitentiary 1880). Before the Civil War, Thomason owned a 3,500-acre plantation near Huntsville worked by 128 slaves. He continued to operate the plantation until his death in 1894 (Hailey 2010). In general, the directors found the workers to be humanely treated, except in the case of one guard, named Hornsby. He had whipped convicts and was discharged for it. These instances of abuse and neglect on farms drew little if any public attention.

Not all of the leased convicts were on plantations. Some of them, including some white convicts were leased to various railroads (Texas State Penitentiary 1880). The railroads used convicts to cut wood

[9] Prison records refer to Alston as a "farm," not a plantation. I assume this was an attempt to differentiate convict leasing from slavery.

for railroad ties and fuel. One such camp, near Mineola, in the heart of the East Texas timber belt between Dallas and Shreveport, Louisiana, became the source of much public furor (Bruner 2010).

By the summer of 1879, six months into Governor Oran Robert's first term, Cunningham and Ellis were drawing public criticism about competition from convicts in wood-cutting camps (Walker 1987). *The Galveston Daily News* printed a short article about the abuse of convicts at the Mineola wood camp, in which it was reported that the citizens in the area were outraged at the deaths of two convicts (The Galveston Daily News, 28 June 1879). Locals told the reporter there were 31 graves of murdered convicts along the railroad tracks and demanded that something be done or they would no longer allow convicts to work in their county. They claimed that guards had shot and killed a convict who had attempted to escape. Apparently, he was shot as he stood waiting to be taken into custody. The man had apparently angered the guards by striking one of the tracking dogs with a club. The coroner's office held an inquest into the deaths of two convicts and held one guard for arraignment.

Most of the complaints from the public, however, were about Cunningham and Ellis's profiting at the expense of the state. In 1880, prison officials had reported many problems with outside camps. They continued to request that all convicts be kept inside the walls, even though they knew this was not realistic (Texas State Penitentiary 1880). The commissioners urged the legislature to prepare for the impending end of the Cunningham-Ellis lease by building more cells at Huntsville. They also asked for updated equipment and new guns for the guards. The guards were currently using "old" and "worthless" guns left from the Ward-Dewey lease (Texas State Penitentiary 1880, 7-8). The superintendent also asked that more convicts be kept inside the prison proper. He noted that discipline at the outside camps was lax. Although sergeants were the only ones authorized to punish convicts, at the outside camp guards often resorted to whipping without permission. He felt that curbing illegal punishment was the most challenging problem at the outside camps. It was poor treatment that led many convicts to attempt escape.

Disease was a continuing problem at the outside camps. The prison doctor reported cases of scurvy, erysipelas (a skin disease), and chronic diarrhea (Texas State Penitentiary 1880). There were 256 deaths from 1878 to 1880. Of those, 208 were from disease, 35 were killed while trying to escape, seven were killed accidentally, and three committed suicide. Goree believed that most of the convicts who died from disease were already ill when they arrived from the county jails. He did admit that, many times, camp sergeants believed convicts feigned illness to avoid work. Goree reported that the wood camps were unhealthy and dangerous. Most of the deaths occurred at wood cutting camps, the fewest at Huntsville. Out of the 425 convicts employed at the wood camps over the year, there were 119 total deaths. This was a mortality rate of over 28 percent per year. In comparison, the convict death rate on plantations was less than 5 percent.

The policy was to send short-term white convicts to these camps, and they were often the least prepared for the work. Goree recommended that once the contracts were up, the wood camps be discontinued. Governor Roberts agreed with Goree that the wood camps were not the ideal place for new convicts. He believed it was cruel to work them at the camps when they were not used to hard physical labor (Texas Governor and Texas State Library 1916*)*. Although Roberts did not single

out white convicts for his concern, it is clear that he meant white convicts, as most assumed blacks were already used to hard physical labor. Roberts said, “The present mode of employing convicts, while it may be no great punishment to some, who are used to hard labor…is to other a horrible bondage, which should be put to an end as soon as practicable” (Texas Governor and Texas State Library 1916). This statement illustrates the views commonly held by politicians and the public regarding black convicts. Since blacks were already used to hard labor outside, they suffered little in continuing to labor for the state. White convicts, however, were less likely to be used to physical labor and therefore it was too cruel to work them outside. This prejudice would be fundamental in the separation within the prison system, into industrial work for whites, and agricultural and other hard labor for blacks.

There were a large number of escapes between 1878 and 1880. Of the 366 escapes, all but four were from the outside camps. Goree blamed lax guards and the high turnover rate of guards due to low pay for the number of escapes. The guards were paid by the lessees, not the state, and their loyalty was to the lessees. He even reported that guards were sometimes paid to help a convict escape. He also blamed the trustee system. Only short-term convicts should have been trustees, but this was not always the case (Texas State Penitentiary 1880).

7.4.6 The State Begins to Resume Control of Convicts

There was some response to Goree’s complaints. In 1881, Governor Roberts pushed for the first law limiting the lessees’ freedom to punish convicts. The same year, the legislature reorganized the prison system. They abolished the Board of Directors and set up a Penitentiary Board made up of the Governor, the state treasurer, and the prison superintendent (*Penitentiary Law 17th Legislature)*. The law in 1881 required guards not to whip prisoners without written permission and supervision (Mancini 1996; Walker 1988). The new Penitentiary Board was to have the “general control” of the convicts, whether they were inside or outside the walls. The prison superintendent was authorized to place convicts at any camp or penitentiary he deemed appropriate. Inspectors were assigned to check on the welfare of the convicts. They were required to investigate deaths, escapes, and illnesses and to keep abreast of punishments (Gammel 1898*, 17-23)*. Shaving a convict’s head, stocking, and using the horse were banned. Male and female convicts had to be kept separate. If a woman came into the penitentiary with an infant child or if a child was born there, it was allowed to remain with its mother until it was four years of age.

Goree reported that, in the past, especially under the Ward-Dewey lease, railroad camps were the worst places for convicts, especially whites. Conditions at the railroad camps were so improved that they were now the ideal place for white convicts that could not be kept at Huntsville. The railroad camps were “large, secure and splendid” (Texas State Penitentiary 1880, 21). Convicts lucky enough to work at them were “more comfortable than inside the walls (Texas State Penitentiary 1880, 21).”

As for the lease of the penitentiary after the end of the Cunningham-Ellis contract in 1883, the new regulations provided that the state would not relinquish control of the convicts. The legislature did leave open the possibility of leasing the penitentiary in its entirety, with the caveat that the State would actually be in charge of the convicts and responsible for their welfare. In section 79 of the new law, the legislature gave permission for the state or a lessee to hire out convicts outside the walls,

providing they attempted to keep them in large forces (Gammel 1898, Chapter XLIX, Section 79). This was designed to make it easier to inspect convicts.

The lease, as it existed, seemed on its way to extinction. However, the large number of convicts made ending the lease a daunting task. The money brought into the state treasury by the Cunningham-Ellis lease had helped to pay for improvements to the Huntsville penitentiary and provided capital in the amount of $185,000 for the construction of the second penitentiary at Rusk (Texas State Penitentiary 1882). Giving up the lease would create a large hole in the treasury. From 1880 to 1882, the lease, minus expenses, netted the state $156,969. Cunningham and Ellis were able to support the non-productive convicts inside Huntsville and they were able to build a successful sugar plantation using convict labor. All of this was accomplished while making lease payments. If the state was going to let the lease expire, they would lose a significant source of income if they did not quickly find a way to profit from their convicts.

After various attempts to find a way to make the penitentiaries self-sustaining, within the boundaries set by the previous legislature, the legislature and Penitentiary Board chose a path that would define the prison system until well into the 20th century. While white convicts would be kept inside the walls at Huntsville or Rusk, black and Mexican convicts would be funneled into extractive agriculture.

If a convict was able-bodied, the state leased him to area businesses. If the lease work or work on the state-owned farm weakened an inmate's health, the Penitentiary Board returned him to the Walls of Huntsville. Prison doctors testified at an investigation hearing that they often received broken down convicts from both the state-owned farms and the lease farms (Texas State Penitentiary 1902a). At least two-thirds of the sick and disabled convicts returned from outside camps and farms, went to Huntsville (Texas State Penitentiary 1890). A State Investigating Committee reported, "when a man on these share and contract farms gets run down and disabled, he is sent here [Huntsville]…to build him up" (Texas State Penitentiary 1902a, 340). Thornton moved from the Walls to the rock quarry. After he was physically unable to continue to work there, he was transferred to the newly established Harlem farm, the first state-run convict plantation. At that time, the farm used only "second-class negro convicts," those who could not earn money for the state in another capacity.[10] The work at Harlem must have provided Thornton with the "rest" he needed. Sufficiently recovered and no longer deemed "second class," the State leased out Thornton at higher rates to area plantations.

Several southern states, including Texas, would seek ways to end the often-criticized lease system. They most often turned to state farms or roadwork (Oliver and Hilgenberg 2006). What made Texas unique in the South was its racialized labor control system. This led to a decentralized, far-flung farm system, while at the same time spending an inordinate amount of money on an industrial work plan for white convicts, illustrated by the cases of Hardin and Thornton.

The impending expiration of the Cunningham-Ellis lease caused a near panic among legislators in Texas. They not only needed to come up with a quick answer to the convict problem, they also needed to appease their constituents who were not anxious to see their taxes rise to support

[10] The official records from the penitentiary never capitalize the word *Negro*, as is customary today.

convicts. The Cunningham-Ellis lease profited both the state and the lessees, and the legislature was under pressure to make a similar profit once the state resumed control of the penitentiaries. One reason the Cunningham-Ellis lease was so successful, was its ability to make lease payments by using convict labor to repair the buildings at Huntsville and to construct the prison at Rusk (Texas State Penitentiary 1890). Prison officials never utilized more than 22 percent of the convicts inside the walls, so they profited enormously from outside contracts with railroads and farms. In the two-year period from 1880 to 1882, the proceeds from the lease were nearly $160,000, and the state's expenses for transporting prisoners and recapture of escapees was less than $3,000, which meant the state cleared close to $157,000 from the lease (Texas State Penitentiary 1882). Because of the large amount of money involved, the legislature vigorously debated the convict problem. At the end of the Cunningham-Ellis lease in 1883, the state toyed with the idea of resuming control of the penitentiary which would mean that they would be responsible for finding employment for convicts.

While they waited for the legislature to act, the Penitentiary Board searched for ways to employ convicts. Most prison officials involved in the process knew that "outside labor can be operated without any investment of capital and is most profitable…" (Texas State Penitentiary 1882*,* 7). The Board advertised for bids from individuals or companies that would lease a minimum of 60 convicts. They hoped to find employment for 900 convicts who could not be housed inside the walls. The Board received 11 acceptable bids for farm labor in September 1882. Cunningham and Ellis had utilized a large percentage of the state's convicts on their sugar plantations. In anticipation of needing to replace this labor at the end of their lease, they bid $15 per month each for 300 convicts.

Four Robertson County plantation owners bid the same amount for a combined total of 380 convicts. Brazoria County would utilize 240 convicts on four farms. H.K. White of Burleson and T.W. House of Fort Bend County also placed successful bids for 60 convicts each (Texas State Penitentiary 1882*).* Cunningham and Ellis saw the benefit of continuing to use convict labor. Under their soon-to-expire lease, they paid the state $3.01 per convict per month. Under that lease, their cost for 300 convicts was $903 per month to the state, plus expenses for food, housing, and guards' salaries. Under the new lease, they would pay $4,500 per month, or nearly $3,600 more, the state would hire and pay the guards, and the lessees would be responsible for feeding and housing them, as well as the convicts. The lessee would get 10-hour workdays from their convicts. The Penitentiary Board estimated that it would cost them $9 per month per convict for guards' salaries and transportation of convicts. Leasing a convict for an average of $15 per month meant each would bring in a profit of $6 per month for the prison. They received bids for 1,040 convicts, well above the 900 they anticipated. Those extra 140 convicts would bring in $10,080 per year, creating a strong incentive to lease more convicts to outside businesses.

The legislature decided to lease Huntsville and Rusk to separate lessees. Cunningham and Ellis won the bid for Huntsville (Gammel 1898, 138-142). This new lease gave Cunningham and Ellis use of the Huntsville penitentiary and all of the prisoners assigned to that prison. It was to run from the day their old lease expired on January 1, 1883 until December 31, 1887. They also were assigned half of the convicts that were already contracted out to farms and railroads. The terms of the lease included a payment to the state of $10,000 per year. A key requirement was that at least 400 convicts

needed to work inside the walls, or nearby at labor that was connected to the industry inside the walls, within the first year of the lease. The legislature expected money from outside contracts to offset expenses of getting inside industry up to capacity. The lessees were to increase the number of convicts worked inside each year, so that by the end of the lease in 1886 there would be at least 600 convicts worked inside the walls. If there were more than 600 convicts on hand, they could work them at outside labor that the legislature approved. Cunningham and Ellis were required to post a bond of $100,000, to guarantee they would fulfill their lease contract. Clause eight of the lease required that, upon the termination of the lease, for whatever reason, “the said lessees shall quietly and peacefully surrender and return” the penitentiary back to the state. The legislature undoubtedly added this clause to prevent another fiasco like the one that had taken place at the termination of the Ward-Dewey lease in 1877. The legislature had the option to revoke both the Cunningham-Ellis lease and the Morrow-Hamby lease during their next session.

In his opening speech to a special session of the state legislature, Governor Oran Roberts made clear that operations at the penitentiary also had to be addressed. Roberts pressured the legislature to address the lease issue before it was too late. He argued that convicts would receive more humane treatment inside the walls than they would at wood camps, farms, and railroads (Roberts, 1882). It is significant that he mentioned ill treatment at wood camps, as the legislature had recently completed their investigation into abuses at the wood camp in Mineola. That incident may have influenced his support of working all convicts inside the walls. By the November gubernatorial elections, the new leases were in place and ready to commence on January 1, 1883 (Gammel 1898).

That year also saw a change in administration in Austin. John Ireland won the gubernatorial election and was sworn into office in January. Ireland began his political career as a sheriff in his home state of Kentucky. He studied law and then moved to Texas, where he voted for secession in 1861. After the Civil War, Ireland was a district judge and part of the Constitutional Convention. In 1867, General Philip Sheridan removed Ireland from his post for impeding Reconstruction, which only increased Ireland’s popularity: he won a seat in the state legislature in 1872. He opposed land grants and subsidies to railroads. After two unsuccessful bids, Ireland won the governorship (Elliot 2010). Given his opposition to government benefiting private individuals and companies, it is not surprising that Ireland would oppose a prison lease that would do just that.

In his inaugural address to the state legislature, Ireland discussed the need to find some solution to the convict problem. While there were many issues facing the state, the penitentiary occupied a central place in Ireland’s comments. Ireland asked the legislature “what shall be done with our convicts?” (Ireland, 1883). The new governor wanted lawmakers to change the penal code, so those convicted of petty offenses would not clog up the penitentiaries. A few days later, Ireland again addressed the legislature to suggest issues he wished to see tackled, one of which was the lease of the penitentiaries. Some citizens had complained about what they saw as unfair competition from convict labor. Legislators, however, faced the task of finding employment that would support the convict without taking jobs away from Texas citizens. The new leases were a stopgap measure to avoid having all of the convicts thrown back to the state before they were prepared to deal with them.

Ireland believed the leases should be rejected, because they did not fulfill the mandate that all convicts be worked inside the walls (Texas Senate, February 10, 1883).

The committee visited Wynne Farm near Huntsville. This visit would foreshadow a shift in the direction of the Texas prison system (Texas Senate, February 10, 1883). Under Cunningham and Ellis, 60 convicts worked Wynne farm. The committee felt these men were not properly cared for and that their housing was inadequate. The committee and the lessees blamed the problems on the new "split" lease. In the following year, after the new leases were revoked, the state purchased the Wynne farm, and this signaled the beginning of the transfer of a certain class of convicts to state-owned farms.

After their cursory visit to the penitentiaries, the joint committee recommended that the legislature ratify the new leases (Texas Senate, February 17, 1883). Several on the committee, however, did not agree with the majority opinion. They wanted the state to resume complete control of the penitentiaries and all of the convicts. The minority report pointed to the profit that could be achieved from hiring out convicts directly and cutting out the intermediaries. The state could bring in as much as $40,000 in the first two years alone, if they resumed control. At the rate of increase in the convict population, the state could have enjoyed $45,000 per year for the next 13 years. There could be as many as 2,753 convicts who could not be housed inside the walls at Rusk or Huntsville. The state could work these men outside for an enormous profit. Leasing an average of 1,815 convicts each year, at a rate of $72 per convict, would generate profits of $130,680 per year, $85,680 more than earned from the Cunningham-Ellis and Morrow-Hamby leases (Texas Senate, February 19, 1883). Although a conservative estimate, this was still a substantial windfall for the state. Under this plan, the state could make enough money to pay for the upkeep of Huntsville and Rusk. They also pointed out that Superintendent Goree had included in his report the fact that the prison also held a large class of convicts who were unable to perform skilled labor inside the walls, and who were incapable of learning the necessary skills, a not so veiled reference to black prisoners. Goree claimed that these "farm hands" could not learn, in a couple of years, the necessary skills to work inside the walls. Since most short-term convicts were black, the implication was clear. The minority report recommended working 600 long-term convicts inside the walls and the remainder on farms that were isolated from the public. They believed farm labor did not compete with free labor. Although they did not explain this reasoning, it seems likely they believed only black farm workers would be affected by the use of convicts in agriculture because white men rarely worked as hired labor on cotton or sugar plantations.

The potential profit of over $2,000,000 over 15 years surely was enough reason for the state to resume control of the penitentiary. Clearly, few involved had an interest in resumption for the sake of the convicts, but solely for the money that would flow into the state treasury. This minority opinion would soon win out, and the state would begin to benefit from the once burdensome convicts.

7.4.7 Cunningham Ellis Lease Revoked

On March 30, 1883, Governor Ireland again addressed the legislature about the prison leases. He had contacted the current lessees and reported that, if the leases were revoked, the state would have to compensate them. In addition, if the legislature insisted on working all convicts inside the

walls, they must be prepared to appropriate at least $500,000 for the next two years (Texas Governor and Texas State Library 1916). He asked them to come up with a viable solution to this apparent dilemma. It seemed a forgone conclusion that the state would resume control of the penitentiaries and simply take over leasing convicts to outside forces. On April 14, 1883, the 18th legislature voted to revoke the leases for Rusk and for Huntsville (Texas Senate, April 14, 1883). Once this was done, the Penitentiary Board had to find ways to keep the industries at Rusk and Huntsville operating.

Settling with Cunningham and Ellis cost the state $59,444.98 (Texas Senate, April 14, 1883). The state also purchased Wynne Farm from the firm for $21,000 in 1884. This included the livestock and the gin house, cotton gin, and 1,900 acres (Texas State Penitentiary 1884). The Penitentiary Board decided to use prisoners considered “dead-weight” because of “broken health or infirmity” at Wynne. Even using frail convicts, Wynne Farm made a profit for the state almost immediately. After the success at Wynne Farm, prison financial agent, R. Haywood Brahan, strongly urged the legislature to stop thinking about building new penitentiaries and start thinking about buying more farms. A joint committee of the legislature visited Wynne Farm in 1885. They were pleased to find that the farm was not only self-supporting, but that it made a profit for the state and provided enough vegetables for Huntsville (Texas House of Representatives February 17, 1885). This profit was enticing to legislators struggling to find a way to make the prisons self-supporting.

The committee also visited several of the share farms that hired convicts. They were impressed with the system and reported the convicts there seemed “happier” than those inside the walls. These men had been sent to share farms because there was not enough work to keep them busy at Huntsville or Rusk (Texas House of Representatives February 17, 1885). Convict idleness had increased because many of the railroad companies had returned their hired convicts to the penitentiary. In 1882, the state had ended its policy of making land grants to railroad companies, which meant there was less need for convicts on the railroads (Miller 1916). Those deemed “second-class” convicts, defined as ill, physically disabled or elderly men, and the first rejected by the railroads, were approved for use on share farms. In fact, Superintendent Goree reported that in the fall of 1884, because of the failures at Rusk and of several of the industries at Huntsville, there was a surplus of convicts. Many of these, he pointed out, were “second and third class negroes” who could not be leased at a break-even price. William Hearne approached Goree with a proposition to work some of these convicts on shares on his farm near Millican, Texas, in Brazos County, providing he could get a contract for several years. The Penitentiary Board approved the contract for three years and made a similar contract to work convicts on shares at the Rogers’ farm, also in Brazos County (Texas State Penitentiary 1884). Although there were no profits to the state for the first two years because of flooding problems, they anticipated profits in 1886. In addition, the state did not have to pay expenses to house and feed those convicts (Texas State Penitentiary 1886a). When word got out that the state had made these share contracts, others requested the same deal. Goree reported that, unfortunately, all the second- and third-class black convicts were taken and offered 275 white convicts on a one-year share contract. They divided the men into four groups, sending two groups to the prairies of Grimes County, and the other two to farms on the Brazos River bottom. While reluctant to make these share contracts with white convicts, the Penitentiary Board felt they needed

to do whatever possible to work all convicts. These contracts, however, were not profitable, especially those on the Brazos River. The Board and Goree concluded that the failure was not the fault of the convicts, who “did their best.” Goree felt it did prove that “white convict labor is not suited to the river bottoms ….” (Texas State Penitentiary 1886a, 19) It is clear that the Penitentiary Board believed black convicts were best suited for farm labor, a view that coincided with those who wished to hire black prisoners.

One key recommendation of the legislative penitentiary committee was for the state to purchase a large farm to work all the men currently on share farms. They believed this would solve both the problem of having convicts scattered on several farms, which made inspection more difficult, as well as allay the fears of locals who worried about having convicts in their area (*House Journal*, February 17, 1885). Skilled industrial labor was reserved for whites, unskilled agricultural work was the domain of black, and later Mexican, convicts.

Goree’s 1886 report to the Penitentiary Board highlighted the many shortcomings of the system. He made a case for consolidating outside convict forces into fewer camps, the better to control them (Texas State Penitentiary 1886a). Goree clearly understood that outside labor was “undoubtedly the most profitable to the state” (Texas State Penitentiary 1886a*,* 9). Of the 2,859 convicts on hand at the time of his report, all but 47 of whom were black, 1,147 were on farms. The Board had approved the contracts on both the share and lease farms while Cunningham and Ellis held the lease. Those contracts were set to expire in 1887, and Goree recommended their renewal, unless the state was prepared to work the convicts themselves. Under the current contracts, the lessees fed both the convicts and the guards. Goree suggested the state take over that responsibility. He wanted to see convicts hired out in larger groups on fewer farms that were closer to Huntsville. One of his recommendations hinted at a common problem in hiring out convicts to private interests: the hiring party was not allowed to charge the state for lost time due to convict illness. As a result, convicts outside the walls were being forced to work when they were ill, as they had been under the Ward-Dewey lease. The only way to get replacements was if a convict were so ill that he was returned to Huntsville, or he died. Goree hoped that allowing the state to be charged back for sick time would prevent some of this abuse.

The plans for the new capitol called for using convict laborers both to quarry and cut granite for the new structure and produce the ornamental ironwork. Whites performed the more skilled work, such as stone cutting, while black convicts performed the heavy labor of breaking and hauling rock. Building a new state capitol turned out to be a boon for the prison system.

Purchasing farms became the mantra for Governor Ireland and prison officials. As he told the legislature, the state needed to purchase farms to “utilize the unskilled labor peculiarly adapted to farm work and unfit for almost any other purpose as convicts” (Texas State Penitentiary 1886a).

In 1886, the legislature approved the purchase of Harlem Plantation in Fort Bend County (Texas State Penitentiary 1886a). The purchase of this 2,500-acre sugar plantation was the beginning of large-scale state-owned convict farms in Texas. The Penitentiary Board, operating under a law permitting the purchase of farms to work convicts who were not “self-supporting,” considered Harlem

Farm "well adapted to the purpose for which purchased – the working of convicts on the State's behalf" (Gammel 1898, 707-708 and Texas State Penitentiary, 1886a). Harlem Plantation was located along Oyster Creek in Fort Bend County, in the Brazos River bottom, and the land was considered to be ideal, "as [the state] believed they could profit in the sugar growing business," as Cunningham, Ellis, and other area planters were "making a grand success of sugar" (Texas State Penitentiary 1888a, 15). Formerly part of a 4,600-acre grant from the Mexican government to Stephen F. Austin, the piece of property changed hands several times.

At the time of the purchase, there was enough land cleared at Harlem to work 60 to 75 convicts, or as Goree estimated, at least two-thirds of the "second-class negroes" currently working shares at the Hearne, Rogers, and Hill farms. He went on to recommend:

> … the State should purchase enough land to work the whole of this class of labor. There are many people who think that the State should purchase farms on which to work convicts who cannot be utilized inside the walls, instead of contracting them out as now, and such a plan had many features to recommend it. The experiment can now be tried on Harlem Plantation, and if it succeeds it can be extended until all this class of convicts are employed on State farms (Texas State Penitentiary 1888a, 20).

The state clearly wanted to make whatever profit was possible out of their "second-class negroes," defined as "the old and very young, the halt, the lame and diseased – who could not be utilized at the prisons and would not be accepted on the contract farms" (Texas State Penitentiary 1890, 22). With the land and existing equipment, everything was set for a first-rate sugar and cotton plantation. The state quickly improved the farm, by purchasing an additional 607 acres between 1887 and 1888, much of which was cleared and ready for cultivation, or already under cultivation.

The return on this investment came almost immediately. In 1887, the farm showed a net profit of $10,502.67. Three years later, that figure climbed to over $167,000, about $20,000 more than the total cost of the land and improvements (Texas State Penitentiary *1890;* Texas State Penitentiary 1896). Thanks to the utilization of un-leasable convicts to grow cotton, sugarcane, and corn, the state owned a property that was worth over $200,000.

Goree reported that some "outsiders" were concerned that Harlem was competing with free labor, a common complaint also leveled against industrial activities at Huntsville and Rusk (Texas State Penitentiary 1888a). Although there is little mention in official reports or by the legislature about farms interfering with free labor during this period, Goree defended the system by pointing to the profits the farm earned. The average profit per convict per year at Harlem was over $500, while the profit for white and Mexican convicts leased to the railroads was $190. The black convicts on contract farms, all classified as first-class, earned the state $178 each. Some of the black convicts on share farms brought in as much as $287 per year to the state. Goree argued that profits were too high to worry about a few complaints. One must consider why the legislature took complaints about competition with free labor from Huntsville and Rusk seriously but dismissed those made against farm labor. Whites were affected by competition in the industrial sector, an area from which black Texans were excluded. There was a prevailing belief system throughout the South that blacks were not as

competent as whites when it came to learning skilled trades (Rice 1971). Blacks did compete with whites for jobs on the railroads and in the east Texas lumber industry. They were more successful in the latter, finding 2,660 jobs there. There were no recorded complaints from black citizens about farm competition with the penitentiary. One reason could be that black property owners in Texas usually owned family farms that did not rely on hired hands. Any competition with large planters would be unaffected by the use of convict labor. It is likely that if these planters did not have access to convict labor, they may have found other ways to coerce blacks into labor in their fields, such as sharecropping arrangements.

Although the purchase of Harlem was a step toward ending the lease system, the state still had hundreds of convicts they could not work at Huntsville, Rusk, or Harlem. In preparation for the expiration of the current contracts for outside labor in 1888, the Penitentiary Board advertised for bids for 800 convicts (Texas State Penitentiary 1888a). They accepted bids for 970 convicts, well over the initial request, for a four-year period from January 1, 1888 to December 31, 1891. These contracts specified “colored convicts” who were selected for their “adaptation to farm labor” (Texas State Penitentiary 1888a, 19). Clearly, black convicts were becoming an increasingly lucrative commodity, while white convicts remained a financial burden. The Assistant Superintendent at Rusk even complained that all the “able-bodied men” were sent to the farms and he was left with “cripples and less able prisoners” to perform non-industrial work (Texas State Penitentiary 1888a, 46). Cunningham and Ellis were the largest contractors for this labor, with the former leasing 150 convicts and the latter 200. There were an additional 120 convicts on share farms, and 400 leased to what the Board called “tenuous” railroad work (Texas State Penitentiary 1888a, 20).

Gender did not exempt a convict from productive labor. There were an increasing number of female convicts, the vast majority of them black, sentenced to the penitentiary. The Penitentiary Board placed these convicts on a farm, where they hoped they would be less troublesome, as well as self-supporting. Had the majority of female convicts been white, the women’s farm would not have become a reality.

After the shocking abuse and sexual exploitation under the Ward-Dewey lease, female convicts remained at Huntsville under the Cunningham-Ellis lease. There were no abuses reported during this lease. While it is likely that there was some sexual contact between guards and female convicts, the fact that nothing was reported could mean there was less exploitation. Perhaps the fact that neither Cunningham nor Ellis lived at the prison proper lessened the chances of abuse, as Ward and Dewey were personally responsible for much of the exploitation.

The Penitentiary Board finally removed female convicts from Huntsville in 1884. Keeping with the desire to find a way to profit from all its convicts, the Board sent all female convicts to an eight hundred acre share farm about seven miles from Huntsville, owned by Reverend Johnson (Texas State Penitentiary 1884). The Reverend’s Christian conscience apparently was not troubled by using convict labor. Johnson provided food and clothing for the female convicts, as well as paying the state one-half of his earnings plus a bonus of $500. Johnson's niece and her husband, Joshua Gayle Bowden supervised the women’s farm, where they grew cotton, sugarcane, and a few vegetables

(Texas State Penitentiary 1902b). The majority of women held at Johnson's Farm were black, and most were serving time for property offenses.[11]

Prison reports claimed there were no problems at the Johnson Farm, and that this was the best solution for female convicts. When he became the new Superintendent, L.A. Whatley said, “This is the least troublesome part of the whole system, being conducted without complaint from either side, and with no friction. I consider this a fortunate and humane disposition of the female prisoners” (Texas State Penitentiary 1894, 13-14). Two years later, Whatley tempered his enthusiasm for the farm by saying that although nothing troublesome had occurred, the Johnson Farm was a constant source of anxiety as he worried that “immoral practices” could occur (Texas State Penitentiary 1896, 13). Whatley most likely had some indication of the myriad of abuses at Johnson Farm that a 1902 legislative investigation would later uncover. While the abuses were not as shocking as those under the Ward-Dewey lease, black female convicts suffered abuse and sexual exploitation at the Johnson share farm.

By 1900, Johnson Farm’s population had grown to seventy black, six white, and three Mexican women (Texas State Penitentiary 1900). The female prison population continued to grow and by 1902 there were one hundred and seven convicts at Johnson, eighty-seven of who were black. The Penitentiary Board transferred eight black men there to act as trusties and do some of the heavier work. Bowden and the guards were required to keep the men separate from the women. They did not.

White women did not perform field labor, but worked as seamstresses or domestic servants, either for guards or for local citizens (Texas State Penitentiary 1902b). White convicts did housework, tended the dairy and vegetable garden, sewed, or cared for chickens. Black women took care of the cotton and corn. Guards claimed they did not force the women to work in bad weather or mud, and that they were only required to work from sunup to sundown (Texas State Penitentiary 1902a, 394). The convicts told a different story, claiming they worked in the rain and the mud, and were in the field before sunup.

Even though they performed farm labor outside, female convicts received little in the way of clothing at the Johnson farm. Neither the state nor the farm manager provided shoes for the women in the fields, and their dresses were skimpy at best, violating state regulations requiring all prisoners be supplied with shoes and adequate clothing (Texas State Penitentiary 1902a; Gammel 1898, Article XVI, Sections 1 and 2). Unlike male convicts, the state did not require women to wear striped uniforms. They could wear plainly made prison manufactured broadcloth dresses. If women wanted extra clothing, their families needed to send it to them or, if they were white women and had access to sewing equipment, they could make their own. Black convicts complained they did not have adequate clothing and frequently went without shoes (Texas State Penitentiary 1902a; Texas State Penitentiary 1909).

[11] In some prison documents, Johnson Farm is referred to as Bowden Farm.

During this period, whipping prisoners in Texas was routine punishment for infractions of prison rules. The whip consisted of a wooden handle, weighing approximately five pounds with four leather straps attached that were five-eighths of an inch thick and eighteen inches long (Texas State Penitentiary 1909). The maximum number of lashes allowed by law was thirty-nine (Texas State Penitentiary 1910). Before female convicts moved to the Johnson Farm, their punishments at Huntsville resembled medieval torture. Guards routinely beat and whipped the women. The worst of those punishments, the “horse,” did not follow the women to the Johnson farm.

Just as under slavery, fast and efficient labor led to profits in farm work, and in the Texas prison system, profits were the top priority. While the Johnson farm was not a source of great profit for the penitentiary, convicts at this farm, along with Wynne farm, produced enough cotton to manufacture all the clothing needed for the entire system (Texas State Penitentiary 1890). Over a two-year period from 1890 to 1892, Johnson farm did earn a profit of almost $5000 (Texas State Penitentiary 1892). Whipping, or the threat of it, ensured accepted levels of productivity. Other forms of punishment for women included confinement in a dark cell or standing on a stool. Manager Bowden of the Johnson farm claimed, “I try everything else on earth before I apply the strap. I hardly ever, unless it is a real bad case, whip one over ten licks. I never punish anyone without it is a very extraordinary case without an order from the inspector” (Texas State Penitentiary 1902a, 394). One of the guards, testified, “I am not allowed to punish except for the dark cell and can stand them on a stool for cursing, fighting, impudence and laziness” (Texas State Penitentiary 1902a, 394). Convicts told a different story. Lula Williams testified guards whipped her four times, twice for fighting, once for trying to break up a fight, and once for “sassing” a guard. She stood on the stool twenty times and spent time in the dark cell at least ten times. Lula said a guard named Woods once put her in the dark cell for being sick and unable to work. Louexa Reed testified she, and six other women, received whippings without knowing why. When guards whipped female convicts, they stripped them naked, tied their arms over their heads, forced them to the ground and administered the lashes. Clara Blair, a 23-year-old black woman, was sent to prison for theft in 1888. Clara stood five feet five inches tall and weighed only one hundred and fifteen pounds (Texas State Penitentiary 1888b, prisoner #4937). While incarcerated for less than two years, guards whipped her on three occasions for disorderly conduct and fighting. Each time she received between five and twenty lashes (Texas State Penitentiary 1888c, prisoner #4937).

Gender did not protect black women convicts from other abuses. These women testified that the guards routinely cursed at them and called them names, a claim the manager at Johnson farm denied. One guard did admit he occasionally slipped up and said a curse word in front of the women, but never cursed at them (Texas State Penitentiary 1902a). Another guard said he never called them “bitches or nicknames like that” (Texas State Penitentiary 1902a, 394). This disrespectful treatment was reserved for black prisoners. All of the white women who testified before the committee claimed they received good treatment. One white woman claimed the worst part of her punishment “has been in being confined with low women” (Texas State Penitentiary 1902a, 394). This is an interesting statement coming from a woman convicted of murder. Guards at Johnson Farm routinely treated white female convicts more respectfully

The biggest difference in treatment of white and African-American females was the sexual abuse and exploitation suffered by the latter. Their status as field hands and not “ladies” made them easy prey for unscrupulous guards. Working indoors, close to the families of prison employees, offered white female convicts additional protection from harassment. The state’s policy of forcing black females to perform “slave” labor kept them in a sexually vulnerable position. Sending female convicts to Johnson Farm cut down the contact between female prisoners and convict men. However, men guarded the women while they worked in the fields and a few male convicts worked there as well

By 1900, the new superintendent had a different view of the women’s farm. Although he believed that Bowden conducted the farm in a “satisfactory way,” he recommended a separate building on the Huntsville grounds for the female convicts (Texas State Penitentiary 1900, 13). “The negro women,” he observed, “are a very low order of beings, mostly from the cities, and as a rule are vicious and troublesome to control ….” (Texas State Penitentiary *1900, 13).* The fact that he singled out black women from the cities suggests that they resisted performing field labor. Urban blacks, male and female, had little or no experience in agriculture, which made them quite troublesome to the Penitentiary Board since they relied so heavily on agriculture for income. He recommended the Board transfer all female convicts to a central location where they could manufacture clothing for the prison population. This change, however, did not take place until the end of 1910.

The state also investigated accusations of sexual abuse and activity at the Johnson Farm in 1902. Fannie Pasckell, a black woman, told the committee she had two children by a convict on the farm (Texas State Penitentiary 1902a). Several female inmates testified that Lula Carlisle, another black convict, and Captain Bowden’s son, Jerry (a guard), had a sexual relationship. Lula Carlisle denied that she was having sex with Bowden. She said, “I have no honor, gentlemen, but I will give you my word before God that the report is not true” (Texas State Penitentiary 1902a, 394-395). It is unlikely that the guards or Captain Bowden knew nothing of Jerry Bowden’s sexual abuse.

The growth of the female convict population was not the only issue facing the penitentiary, as the male convict population ballooned as well. In 1889, there were 3,432 convicts on hand, the largest number to that point. One out of every 703 Texans was incarcerated (Texas State Penitentiary 1890). The large number of convicts meant more had to be worked outside the prison proper, and this meant more escapes. The contract farms experienced a large number of escapes. Of the 166 escapes for the period from 1888 to 1890, 60 of them were from contract farms. The trusty convicts accounted for a third of all escapes. Rusk was not immune from the problem. Although the coaling camps were far from the prison, the inmates who worked in them (usually white and Mexican) found it especially easy to escape, as the heavily wooded areas provided cover. Goree feared that the proximity of the town of Angelina also “lured” desperate convicts to run.

The brutality at Huntsville and Rusk did not compare to the treatment of convicts at the outside farms and camps, where men were whipped, cursed, and forced to run to and from the field (Texas State Penitentiary 1890). The Dunovant farm near Eagle Lake was the focus of much of the criticism. Many of the men were whipped in the field, which clearly indicates the sergeant had no order to punish. Men reported being lashed as many as 143 times, and one man said the sergeant whipped him for several hours, until his arm was too tired to hold the whip. One white convict testified that the worst

part of being whipped was that he was “held down by Negroes” (Texas State Penitentiary 1890, 360). Reasons for whippings included slow work, not meeting the assigned task, being too ill to work, gambling, talking to the inspector, and in one case, “chasing women” (although there is no indication how a convict would be in a position to chase women). At the Cameron Farm, convicts claimed guards whipped one black man to death and buried him at the camp, and that hogs rooted up his body. Several convicts believed the sergeants had blank whipping orders signed by the inspector.

Whipping was just one of the abuses heaped upon the convicts. Guards cursed them, kicked them, hung them by the wrists, and hit them with shotguns, pistols, and riding crops (Texas State Penitentiary 1890). They were used as training props for tracking dogs and were run down and bitten. Convicts suffered from emotional abuse and degradation as well. At the Cunningham farm, guards had a “honkitonk” on the premises where they forced black convicts to sing and dance for their amusement. Guards there would allow the convicts to get drunk and invited citizens in to watch them. They thought of it as a “convict theater.” The guards even brought in black women from the outside to drink and dance.

Alcohol consumption seemed to be a widespread problem among the camp sergeants and guards as well. Several convicts reported the guards had access to whiskey (Texas State Penitentiary 1890). At Wynne, Sergeant Montgomery admitted he brought in a gallon of whiskey each month for medicinal purposes. Convicts told a different story, claiming Montgomery was “always drunk,” and he brought in a gallon of whiskey each week. Opium, not alcohol, was the issue at the Watts and Wood Camp. The night guard had allowed 32 escapes in 1889 while “drunk on opium” (Texas State Penitentiary 1890, 412). The low wages and difficult work did not attract the most qualified and respectable men to the prison guard profession.

Several of the men at the outside camps were disabled or ill, yet they were still compelled to work. At the Dunovant farm, George Penny blamed a lack of medical attention for the loss of his eye (Texas State Penitentiary 1890). At Eastham, a convict lost an arm in the cotton gin. He was not the only man with one arm to work on the farms: Joe Young claimed that in addition to himself there were at least seven other one-armed men cutting sugarcane at Dunovant. Camp sergeants sometimes accused convicts of injuring themselves to avoid work. The sergeant at the T.P Barry camp claimed he could not whitewash the buildings because convicts would put the caustic mixture in their eyes to avoid work, while convicts claimed the whitewash dripped onto them when they were in their bunks. At another camp, a recently discharged guard testified that the sergeant kicked, chained, and starved a Mexican convict for having swollen eyes. He said the “son of a bitch put lime in his eyes in order to get to lay in” (Texas State Penitentiary 1890, 425). There was a lot of illness at the sugar farms, and many were sent to Huntsville to recover. At the Cunningham and Ellis farms, they had a problem with malaria. Huntsville’s doctor, W.E. Fowler, said these men, mostly blacks, were sent to Huntsville to die. He told the investigating committee the average life span of a convict on a lease farm was seven years. It took two to three months to restore the strength of the men “broken down” on the farms.

Death rates ran highest at the contract farms, especially those in Fort Bend County. These were the Cunningham and Ellis sugar plantations, as well as a cotton plantation owned by the House family.

Of the 183 total prison deaths, 67 were on contract farms (Texas State Penitentiary 1890). As illustrated by the case of Jack Thornton, when a convict became ill or broken down at a contract farm, he was usually sent back to Huntsville to recover (Texas State Penitentiary 1886b, Convict #3759; Texas State Penitentiary *1886c, Convict #3759).* Lessees did not want sick convicts. Therefore, the 67 deaths recorded at those farms underestimated the likely numbers. The prison physician at Huntsville reported that at least 23 of the deaths in his facility were of men returned from contract farms in a condition too far gone to save. In contrast, there were only nine deaths over the previous two years at Harlem. Although these men were categorized as "second-class," they fared better than the "first-class" convicts worked on contract farms. Working conditions at Harlem and the Cunningham and Ellis plantations were similar. The different mortality rates had to be the result of the pace of labor, mistreatment, nutrition, and housing conditions at the contract farms.

Sugar production was a key industry in southeast Texas from about 1870 onward, and many convicts worked in sugar production. By 1880, there were 45 sugar plantations in the four counties that made up the "sugar bowl" (Sitterson 1953). Harlem was one of several Fort Bend sugar plantations that enjoyed the boom in the sugar industry. In 1890, the Texas Sugar Growers Association organized in Houston to encourage and support the further expansion of Texas sugar production. That same year, the McKinley Tariff, a highly protective tariff designed to stimulate American sugar production, passed the United States Congress. Under its terms, the government paid a 2-cent bounty on every pound of domestic sugar produced. This extra money, on top of the going price for sugar, was supposed to help American sugar producers compete with Cuba and other foreign sugar producers. However, most sugar growers opposed the bounty. In Texas, Governor James S. Hogg vetoed legislation that would have allowed Harlem prison farm to accept the bounty on the sugar it produced (Texas Governor and Texas State Library 1916). He opposed the bounty because he said the penitentiary would be required to register with the federal government and apply for a license to grow sugar, which would subject them to inspection and regulation by the Internal Revenue Service. Hogg argued that if Harlem wanted to grow sugar using convicts, it had to do so under state auspices (Texas Governor and Texas State Library 1916).

As for the farms in the last decade of the 19th century, when Whatley took over, there were 222 convicts at Harlem, and 1,237 convicts employed on contract farms (Texas State Penitentiary 1892). The lessees who grew only sugar paid the state $17 per month per convict. Whatley reported: "The convicts employed on the farms are of a class whose labor cannot be utilized in the walls, consisting of negro convicts exclusively" (Texas State Penitentiary 1892, 9). The Rogers share farm had earned the penitentiary a net profit of over $18,000 from 1890 to 1892. Whatley believed more farms should be purchased as soon as possible, because he anticipated a rise in land prices. He recommended buying in Matagorda and Wharton counties, both good sugar-growing areas. Yet, the legislature did not go through with the option on the Rogers farm, and the state continued to lease convicts to contract farms. By 1894, Cunningham had leased 391 convicts and Ellis had leased 154 (Texas State Penitentiary 1894). The contract farms brought in a lot of money, but the penitentiary spent time and precious resources transferring convicts from one place to another to fulfill contractual obligations. As convicts died, became ill, or were released, the state needed to replace them. Although Whatley reminded the Penitentiary Board that the men at the contract and share farms

were those who could not be worked to the state's advantage inside the walls because they were black, they were again experimenting with three share farms using Mexican and white convicts. Whatley reported these men were all either small in stature or suffered from some disability that made them unable to perform other work. The message was clear, black convicts were only suited for agricultural work and white and Mexican convicts, unless they were deficient in some way, were best suited for industrial skill labor. The number of convicts from Mexico had steadily increased, as had the number of Mexican-American convicts. In 1894, there were 388 convicts from Mexico and 572 convicts classified as "Mexican," meaning there were 184 Mexican-American convicts. As these numbers grew, the state would begin to shift their view of this group and begin treating them in ways similar to black convicts.

By 1896, the prison population had grown to 4,421, with 2,780 outside the walls of Rusk and Huntsville (Texas State Penitentiary 1896). Nearly 2,500 of those were on farms. There were more share farms using convict labor, as well as four new farms working a combination of white and Mexican, or Mexican and black convicts. None of the farms worked black and white convicts together, in keeping with segregation practices. Whatley complained that the white and Mexican convicts working on shares did not bring in a profit, but this was the only place for them because of their "infirmities." Harlem was still producing huge profits, in spite of losing most of its sugar crop to a freeze in 1895. They produced enough cotton and corn to offset any losses. In 1893, the 23rd Legislature had finally approved $300,000 to buy additional farms, but this was ruled unconstitutional by the Attorney General because the allocation came from the school fund surplus. The 24th Legislature then proposed an amendment that would allow them to borrow the money, but the amendment was rejected. Whatley continued to pressure the Penitentiary Board and legislature to find a way to purchase more farms. Even though Harlem had a poor cotton crop in 1896, the sugar crop, he pointed out, more than made up for any losses with a profit of $76,000. (Texas State Penitentiary 1898).

The prison was now at a crossroad: would there be a shift toward state-owned farms, or a continued push to operate prison industries? The decision would alter the course of prison development in Texas. In his 1898 report, Whatley said that the majority of the prison's income came from the sale of farm products (Texas State Penitentiary 1898). This was not only the least costly to the state, it was the most profitable.

Although they argued for reducing the inside industries, legislators still did not intend to employ white convicts on farms. They ended the report by suggesting the state purchase another large farm to work "negro" convicts (Texas State Penitentiary 1898).

Six months later, in December 1899, the legislature, and the Penitentiary Board finally purchased another convict farm, Clemens Farm in Brazoria County. The state purchased 5,427 acres outright and leased 2,575 acres with an option to buy in two years. They paid $8 per acre and the option to purchase was for $12.31 per acre. After Whatley stepped down, the new superintendent, Jonas Rice, hoped the purchase of Clemens marked the end of the lease system (Texas State Penitentiary 1900). Rice began as the financial agent for the penitentiary in 1895 and would later become a prominent businessman and banker after his prison career (Walker 2010).

Superintendent Rice closed his 1900 report by saying:

> The hiring of convicts under what is known as the lease system, where they are worked on farms, railroads and in coal mines, has been condemned not only by prison men generally, but by every intelligent, disinterested citizen of the State who has felt disposed to investigate it. It is true that the greatest revenue to the system is derived from that source, but that is all that can be said in its favor. Some of the other southern states have seen the folly of the lease system and are placing their convict forces on State farms. The State of Louisiana, where for nearly thirty years the convicts have been worked under the lease system, is at this time reorganizing their penal system through a board of control… (Texas State Penitentiary 1900).

This statement foreshadowed the 20th century future of the Texas prison system. The state continued to purchase farms to work black convicts, while at the same time clinging to the hope of an industrial system for white convicts. The welfare of white convicts would take center stage in the debate about leasing. Mines, railroads and wood-camps, that worked white convicts outside would be the first focus of reformers, not the black convicts on farms.

In 1896, one of the new outside contracts made for convict labor was with the Calvert Coal and Clay Company, a mining operation in Robertson County (Texas State Penitentiary 1896). The company leased 120 convicts. They were listed under the railroad contracts, which meant they were white convicts. While prison officials may have thought the Calvert mine was a success, prisoners sent there had a different story.

Progressive Era reform touched on the prison system in Texas, as reformers sought ways to end the corruption of the Gilded Age, when trusts and big business wielded more power than did individuals. Government regulation and public awareness of social injustice defined the Progressive Era during which various humanitarian and public health issues captured the public's attention (Gould 1974). Scientific process and control, which emphasized rationality, efficiency, and expertise, seemed like the answers to government corruption and social problems. The penitentiary system in Texas was attacked on all these fronts by reformers. Fear that the "penitentiary ring" could profit from the lease system at the expense of the state drew some reformers to push for the state to benefit from the labor of its prisoners rather than private interests. The penal system was not only inefficient, but the gross mismanagement, corruption, and venality of those involved with the prison were targets of reformers. Social welfare advocates called for the more humane treatment of prisoners, but also for the reformation of the criminal so that he or she would no longer menace society. There were two major investigations of the prison in 1902 and 1910. The 1902 penitentiary investigation was part of a larger examination of all state institutions and uncovered numerous abuses and corruption. The 1910 investigation, involving just the penitentiary, was more thorough and uncovered a multitude of problems. This investigation had a dramatic effect on the penitentiary in Texas, as it resulted in a complete reorganization of the system, including the end of the convict lease.

As the Texas penal system moved toward a convict farm system, leasing and the abuses inherent in that practice came under increasing scrutiny. State and penitentiary officials continued to follow a

practice of racialized labor control, demanding that African American convicts perform plantation gang labor, to not only make the prison system profitable, but also keep them involved in labor deemed appropriate for their race. Officials continued to struggle to keep the unprofitable Rusk penitentiary operating to provide industrial labor for white convicts. As the prison population grew, so did the abuse of convicts.

On October 21, 1901, the legislature authorized an investigation into all state institutions, including the penitentiary (Gammel 1898, 1351). Superintendent Jonas Rice resigned on April 11, 1902, before the investigating committee began its work on May 1, 1902 (Texas State Penitentiary 1902b). He may have realized the multitude of abuses that would be exposed during the investigation and chose to resign before he was removed. By 1904, Rice had been installed as a receiver for a bankrupt lumber company (Walker 2010). In 1907 he was the receiver of the T.W. House Sugar Plantation, which relied heavily on leased convicts to operate, and will be discussed later in this chapter. The committee chose not to interview Rice's successor, Searcy Baker, perhaps because he had not held the position long enough to provide pertinent information.[12]

The joint legislative committee was ordered to investigate, and then report conditions, paying particular attention to the efficiency of each institution and the use of public funds. The committee reported that convicts on the state farms and share farms were generally well treated, but on the lease farms, they were "badly treated" (Texas State Penitentiary 1902a*).* The committee declared the lease system a disgrace that should be abolished. They said:

> As a rule, the life of a convict is not as valuable as that of a dog, as evidence thereof we find that the average life of a convict is seven years. Convicts are shot down on the least provocation, and when there is absolutely no excuse for it. Convicts are worked when they are sick and disabled and some have been compelled to work until they dropped dead in their tracks, yet nothing so far as we know has ever been done to remedy this evil. When men are shot down like dogs and are worked until they drop dead under this system, the people of Texas cannot hope to escape the responsibility for these wrongs, and we believe that if the present condition of things were known to them and they could be made to realize it, they would bring such pressure to bear upon the next Texas legislature that these evils would be stopped. The existing methods are harsh, cruel, inhumane, and unworthy of an enlightened people (Texas State Penitentiary 1902a, 324).

Following the example of other southern states, the committee recommended abolishing the lease system at once and creating enough industry inside prison walls to employ long-term convicts and to place short-term convicts at work on the public roads (Texas State Penitentiary 1902a).

The committee uncovered a multitude of abuses, both physical and fiscal. Convicts received brutal unauthorized whippings, but the committee seemed more concerned with the corruption of prison employees. Accusations surfaced that camp sergeants were appropriating supplies intended for the

[12] There is no testimony recorded from Superintendent Searcy.

camps (Texas State Penitentiary 1902a). The financial agent for the penitentiary testified that he suspected as much but had no proof.

Following the investigation, the Penitentiary Board requested that most of the abuse uncovered came from the practice of hiring out convicts, either for wages or on shares. Although they admitted there were problems, they had made strides in improving the system since they ended the practice of leasing the entire penitentiary to “private speculators” (Texas State Penitentiary 1902b, 2).

Overall, there were surprisingly few changes made to the system immediately after the investigation. The assistant superintendents and underkeepers retained their jobs, the women remained at the Johnson farm, the legislature continued to pour money into the iron industry at Rusk, and black convicts continued to work for private sugar and cotton planters.

In their 1904 report, the Penitentiary Board claimed they were still struggling with the lease system (Texas State Penitentiary 1904). They told newly elected Governor Lanham that they could find no other means to bring in revenue that would allow them to abolish the lease:

> An urgent and imperative demand for a steady and reliable monthly revenue to meet current expenses, by supplementing the manufacturing and other available resources of the system during the time its agricultural interests and farming enterprises are a source of constant outlay, will neither permit nor justify the entire abandonment of this business custom of the past twenty years, without that substantial financial assistance which can come alone through legislative action, and which must take the form of a special appropriation far in excess of such an amount as the present and prospective condition of the State treasury would authorize or the Legislature probably grant (Texas State Penitentiary 1904, 2).

In an attempt to justify the continuation of the lease, Superintendent Baker compared the death rate of Texas convicts to other southern states. In Texas, the death rate was 15 out of every 1,000 convicts. In 1904 in Alabama, the rate was 30 out of 1,000, an improvement from 1895, when the rate was 85 of every 1,000. The Missouri prison had 54 deaths for every 1,000 convicts and Arkansas was the highest at 98 per 1,000. These states, like Texas, all had some sort of lease system. In three states that had abolished the lease, the death rates were lower. Virginia recorded 17 deaths per 1,000, Maryland 20, and Louisiana 27. Texas compared favorably, even to the states that ended leasing, Baker argued, proving that Texas convicts are well cared for and treated humanely (Texas State Penitentiary 1904). Baker reported that the “healthful work” on the farms was the key to the overall health of leased convicts. He said that convicts must work, not so much for the benefit of the state or to be self-supporting, but because it was in the best interest of their own physical and mental health and prevented restlessness and discontent. This marked a turning point in the defense of leasing and convict labor. Although the lease and the state farms brought in money, prison officials were attempting to prove that this type of work was also good for the convict. A new concern for the well-being of convicts, however limited, was creeping into the Texas penal system. The 2,154 convicts leased out at the time of the report brought in a considerable amount of money, and the

state would not abandon leasing until they found a way to make the inside industries and the farms pay as well.

While the state mulled over the idea of ending the lease and moving black convicts to state-owned farms, the planters that leased convicts continued to profit. In 1907, T.W. House Company, a long time lessee of convicts for their Arcola Sugar Mills Company, filed for bankruptcy (Rice 1908). The House family filed for bankruptcy, not because of the sugar plantation, which was profitable, but because of the failure of the T.W. House Bank, which was a victim of the volatile financial situation affecting the entire country (Grover 1962). When T.W. House, Sr. died in 1880, his heirs inherited 250,000 acres of land in 63 counties in Texas. The 8,753 acres in Fort Bend County had been purchased by House, Sr. in 1873. This plantation was formerly owned by J.D. Waters, one of the largest slave holders in the state of Texas (Campbell 1989). When House's sons took charge of Arcola, they divided it into five farms, each with its own manager. Arcola leased convicts from the state from 1875 until 1911, and therefore provides insight into operations of nearby Harlem farm. At Arcola, there were some complaints by free, or non-convict, workers about the use of convicts as the main source of labor.[13] Some managers at Arcola claimed convicts did not work a full day, were destructive, and could not be compelled to work at the required pace.

Although little changed in prison operations following the 1902 investigation, Progressive Era reformers, including Thomas Campbell who was sworn in as governor in 1907, were gaining more influence in politics.

Reconciling fair taxation with running a penitentiary system would prove a difficult task, and during Campbell's administration, penitentiary reform was a central issue. He pushed for the end of the lease system and more humane treatment of convicts. Campbell was also pro-labor, so penitentiary industries that competed with free labor, like the iron foundry at Rusk, came under scrutiny.

While Rusk suffered, the state-owned farms prospered. Harlem and Clemens farms continued to earn money for the state and provide labor for black convicts (Grover 1962). In early 1908, the Penitentiary Board purchased the 5,235-acre Imperial Farm for $160,000 from the Imperial Sugar Company. Prison lessees E.H. Cunningham and L.A. Ellis formerly owned this property. Cunningham, who bought out Ellis, was the sole owner of the Imperial Sugar Company and built a large refinery in 1896, to process raw sugarcane into refined white sugar. Ellis continued to operate his sugar plantation with convict labor and sold his sugarcane to Imperial Sugar.

Although Cunningham had made a fortune from his sugar plantation and convict labor, by 1903 the company went into receivership (Armstrong 1991). In 1905, the company emerged from bankruptcy and was renamed the Cunningham Sugar Company. In 1906, it earned a profit of $34,000. The following year, Cunningham built the Imperial Valley Railroad to bring in raw sugarcane to both his mill and the mill on Ellis's plantation. They processed cane from small farmers in Fort Bend County and could barely keep pace.

[13]Texas State Penitentiary Biennial Reports from those years also show T.W. House as a lease contractor.

Other sugar mills in the area closed while Cunningham and Ellis made improvements on theirs. In 1882, there were 46 sugar mills in the area, but only ten remained by 1909, including the mill at Harlem farm (Armstrong 1991). In 1907, Cunningham Sugar lost a staggering $320,000 and agreed to sell the plantation land to the penitentiary. Although Cunningham Sugar employed nearly 300 free workers, they depended upon more than 400 convicts to perform the most arduous labor in the fields. According to former refinery supervisor, L.H. Rayner, they used free labor on the trains and in the repair shops, while many ex-convicts worked in the yards and in the factory. They used only convicts in the cane fields where they worked in gangs of 20-30 men with a sergeant and a team of bloodhounds. Most of the skilled labor in the boiler room came from Louisiana. In addition to convicts and ex-convicts, Sugar Land "seemed to be the dump for deserters from ships in Galveston, hoboes needing a couple of bucks, and hikers," adding to the area's unsavory reputation.

With the purchase of Imperial Farm, the state gained a plantation that was already worked by convict labor, so the transition was minimal. Any sugarcane the state grew that they could not process at Harlem's mill could be sold to the Cunningham Sugar Company. The Penitentiary Board also increased the size of nearby Harlem by purchasing a 957-acre neighboring farm for $38,280 (Texas State Penitentiary 1908). The state also negotiated a favorable deal to purchase the 7,762-acre Ramsey farm in Brazoria County. They paid only $13.75 per acre, with no down payment and agreed to pay the owner 40 percent of the gross proceeds, plus six percent interest, until the note was paid in full. As the sugarcane crop was excellent at Ramsey, Herring reported they should be able to pay the farm off quickly.

7.4.8 Prison Reform

During the winter of 1908-09, journalist and Progressive reformer George Waverly Briggs wrote a series of articles for the *San Antonio Express*, exposing a variety of abuses in the penitentiary system and offering progressive solutions (Briggs 1910; Texas Bankers Record 1957). Briggs accused the penitentiary system of "utterly failing to perform its mission in respect to the reformation of criminals" (Texas Bankers Record 1957). Based on Briggs's exposé, on November 24, 1909, the Thirty-First Legislature appointed an investigating committee to hear testimony at the penitentiaries and outside camps and farms (Gammel 1904).

Huntsville Chaplain Jake Hodges informed the committee that he had seen convicts refuse to eat because the food was poorly prepared (Texas State Penitentiary 1902a). The committee did seem concerned that sergeants at outside camps were purchasing inferior quality bacon and receiving kick-backs from suppliers, although no employee admitted this was true. The food at the outside camps drew the most complaints. At the Ellis farm, convicts reported they had nearly starved to death, and at the Bonus Farm, the contractor paid convicts script for overtime, which they used to purchase extra food at the contractor's company store.

Filthy clothing and bedding was a common complaint at the outside camps, as convicts and guards testified that bedbugs and fleas were common (Texas State Penitentiary 1902a). The tin-roofed bunkhouses were hot in summer, and mosquitoes were a constant annoyance. Overcrowding forced many convicts to sleep two men to a bed at some camps. Beds were generally made of wood, and the committee asked why Rusk did not produce iron beds for the camps. Herring responded that it

would certainly cut down on bedbug infestations, but he did not know why they were not manufactured. Clothing, while adequate at Huntsville, was lacking at the outside camps. Convicts reported they often had no shoes and were only issued underwear when the administration learned of the pending investigation. One convict who testified before the committee wore clothing so threadbare that they “can’t hardly hide your privates” (Texas State Penitentiary 1902a, 512). When shoes were provided, they were uncomfortable and ill-fitting, and several convicts displayed large blisters on their feet.

Although convicts received the bare necessities, they were far from humanely treated. The violence against them, sometimes in the guise of discipline, was often horrific. Guards and sergeants were, in theory, required to follow penitentiary rules regarding punishment for infractions or be discharged (Texas State Penitentiary 1902a). While the worst punishment, the “horse” used by Ward and Dewey to torture prisoners, had finally been done away with by 1876, whippings were still a routine occurrence. Prison regulations required sergeants to get permission to whip a convict from an inspector or the superintendent. They were not allowed to break the skin, or strike convicts with anything other than a regulation whip. Testimony, however, proved these rules were regularly broken. There were numerous reports of whippings without permission. The inspectors, Sam Hawkins and J.G. Barbee, both testified there were no unauthorized whippings, but they did not keep any records of punishments, so there was no way to verify this information. One former guard told the committee that the sergeant at one of the railroad camps had blank permission slips signed by the inspector, so that he could fill in any convict’s name and whip him, a practice supposedly addressed in the 1902 Legislative investigation. There were reports of guards dragging a wet whip through the sand in order to inflict more pain and damage, and several convicts had scars from where their skin was broken with a whip, including an incident witnessed by Hodges. Prison regulations also limited the number of lashes a convict could be given to 39. Again, testimony from guards and convicts proved this rule was regularly violated. There were reports of convicts as young as 14 being whipped unmercifully, and others lashed 51, 93, 98, 100, or 106 times. Frequently, convicts were forced to administer lashes to fellow convicts, or to hold them down while the sergeant whipped them. In another flagrant violation of rules, sergeants and guards beat convicts with anything they had at hand, including branches, pistols, shotguns, a riding crop, and a leather saddle girth. Clearly, regulations regarding whipping were rarely followed.

In addition to whippings, several convicts testified that they had been, or seen other convicts, “hung in a window” for punishment. In this torture, a man was forced to place his toes on the windowsill and then grasp the bars about 3 feet above his feet. He then dangled off the window in a bent position until his muscles gave out and he fell to the floor (Texas State Penitentiary 1902a). Sergeants denied they used this punishment. Some convicts were punished in a dark cell, but most outside camps did not have one.

There were several incidents in which convicts were killed by guards. One man was shot when he stopped work to relieve himself, and another was whipped until he died (Texas State Penitentiary 1902a). One convict was whipped and then forced to climb a tree that was covered in ants. The local

paper reported he died from the beating and ant bites, although the sergeant at the camp claimed the man really died from dysentery and the prison doctor corroborated that finding.

Several people testified that at the Cunningham farm, Sergeant Gentry beat convict Mike Dunn to death with a whip, a knotted rope, and a gun butt. One man who tried to intervene was also whipped. This man later chopped off his own hand so he could get away from the camp. One convict testified he carried Dunn's blood-covered body to the hearse (Texas State Penitentiary 1902a). Inspector Barbee confirmed that one convict at the Cunningham farm had been whipped to death, and he ordered the body disinterred and held an inquest, after which the guilty party was indicted. Another convict, "Old Fred," was reportedly dragged behind a horse for working too slowly and died from his injuries. At the T.W. House farm, a convict named Edward Jackson had "fits" in the field row and began walking away. Captain Thomas hit him with his pistol and the man turned back. When Thomas struck him again, Edwards raised his hoe in defense, and Thomas shot him in the mouth, killing him. In one of the more brutal incidents, a Mexican convict named Antonio was tortured and killed. He was whipped on and off for several hours, then his knees were bent and a hoe handle slid between them. His hands and ankles were tied together around the handle. Guards left him lying in the hot sun for over two hours until he died.

White convicts were also subjected to harsh punishments. Prison officials hoped the training in mine work would help white convicts find employment after they were released. The abuse of convicts at the Calvert mines, alluded to by John Shotwell, would prove instrumental in reforming the prison system. On October 21, 1909, the investigating committee visited the Southwestern Fuel and Manufacturing Company in Calvert (Texas State Penitentiary 1902a).

After hearing testimony, the committee members went down into the mine, reporting that it was dark and the only light came from the lanterns the convicts carried, although the ventilation was not as bad as they feared. They did see water seeping into the mine and saw men working in water up to their knees. The committee members were clearly outraged at the treatment of these white convicts and the horrible conditions in which they were forced to live. Their report and the publicity from the investigation would help push politicians to end the convict lease system.

At the end of the investigation, the legislative committee met on January 25, 1910 to discuss the evidence they had gathered. The report, including a transcript of the evidence, was to be made public. Senator F.C. Weinert, one of the committee members, objected to the publication, because convicts had been promised anonymity when they testified, and some of the information given was of a personal nature. For example, one convict gave the name of the woman whom he admitted raping. Weinert wrote to Governor Campbell, imploring him to at least remove names from the publication (Weinert 1910). The committee rejected his concerns and the report was published with all the testimony intact.

7.4.9 1910 Prison Reform Law

After the investigation was complete and the committee reports were forwarded to the governor and lawmakers, the legislature passed a law in September of 1910 that revamped the penitentiary system (Gammel 1910). Because the current farm crops were being harvested, the legislature decided not

to implement the law until January 20, 1911. The new law reorganized the penitentiary and management of the system, setting up a Board of Prison Commissioners and most importantly, “abolish[ed] the leasing and hiring of State prisoners” (Gammel 1910, introduction). The new law called for the humane treatment of prisoners and a focus on reform. Although this had always been part of the penitentiary law, the legislature felt they needed to reiterate it after the abuses uncovered in the investigation. By January 1, 1914, all prisoners had to be worked on state-owned or controlled property. Any lease contract still in effect at that time would be terminated. The law encouraged the new Prison Commissioners to end leasing sooner than the deadline, if possible. The law did allow the Governor to assign convicts to labor on public works if there were some complication, such as a fire or flood that prevented their work in the fields or at inside industries.

The role of the three-man Board Prison of Commissioners was expanded. The Governor appointed them for two-year terms at a salary of $300 per month, plus reasonable travel expenses and rent-free homes in Huntsville, because the Commissioners were required to live at Huntsville and have no other employment (Gammel 1910). These were measures against possible corruption. The commissioners had exclusive control of the penitentiary and, as such, were personally responsible for the care and treatment of the convicts, as well as appointing all prison officers, chaplains, teachers, and clerical workers. The Commissioners could discharge any employee who failed to comply with the new regulations. The new law required each commissioner to spend at least one day each month inspecting a camp or farm, and to report any deficiencies in food, clothing, bedding, or treatment by officers and guards. This section tied the commissioners more closely to the running of the prisons and clearly delineated their duties and responsibilities.

The new law also addressed the issue of punishment. Stocks were banned, although they were not in use during this period, and whipping was allowed, but subject to more controls. The maximum number of lashes was reduced from 39 to 20 and could only be administered on the bare rumps and thighs. Significantly, only third-class convicts could be whipped, but only if all other methods failed. First- and second-class convicts were not to be whipped at all, and the strap used for lashes had to be leather and could be no longer than 24 inches long and no thinner than 2.5 inches (Gammel 1910). These regulations were designed to prevent the whip from breaking the skin. If the sergeant determined whipping was appropriate, he had to get written authorization from at least two of the commissioners. The convicts could only be whipped in the presence of the prison physician.

Although earlier reports of abuse were ignored, Progressives had successfully pressed prison reform to the public and the legislature by the time the investigation began in 1909. After a long history of abuses and exploitation, Texas finally addressed the worst attributes of the penitentiary system. With support of a progressive governor, the legislature acted to end the brutal lease system and correct other abuses. Unfortunately, these reforms left plenty of room for abuse and exploitation. Many of the reforms led to unexpected and at times deadly consequences. At the heart of the failure of the reforms was the state’s desire to keep black, and later Mexican, convicts in plantation agriculture. As long as this group of convicts was used in this manner, abuse was guaranteed.

After an exhaustive investigation into the multitude of abuses in the Texas prison system, the legislature enacted a prison reform law that went into effect in January 1911. The reforms were

designed to address the worst evils of the system, namely convict leasing, the abuse of female convicts, and venality within the system. The test for the new reforms would come with their implementation. While reformers and many politicians believed reform was necessary, prison employees often had a different view. For them, the new regulations made it more difficult to work convicts at the profitable rate the state demanded. The decision to place all black convicts on state-owned farms was an improvement over leasing. However, because the state refused to address the underlying issue of forcing blacks into extractive agriculture, convicts under the farm system would continue to be overworked and abused to further the industrial employment of white convicts.

Texas was not the first state to adopt Progressive prison reform, but its determination to keep plantation agriculture led to the development of a sprawling, decentralized farm system unlike any other state. This system allowed Texas to maintain and profit from their farm system longer than other southern states.

Almost as soon as the shift to state farms was put into effect, reformers began to question the suitability of the farms. Instead, they proposed road building as a suitable employment for convicts, as did other states (Brigg 1910). Journalist George Waverly Briggs condemned both the lease system and the state farm system that replaced it (Brigg 1910). He argued that convicts on the state farms were subject to greater abuse than on lease farms because the farm managers had performance quotas. He claimed that guards on lease farms were less likely to overwork convicts, as they had no direct stake in their output (Brigg 1910). Briggs did admit that a few guards were susceptible to bribes from plantation owners to push convicts to faster labor. What he ignored was that the lease agreements were for a specific number of convicts, not for certain men. If one of the leased convicts was unable to perform up to expectations, whether from illness or abuse, or if he died (which was not infrequent) he was replaced. There was no incentive for the plantation owner or for the guards to go easy on the convicts. There was an abundant supply of black convicts, which the state believed ideal for plantation labor.

7.4.10 End of the Lease

Ending the lease meant a substantial loss of revenue for the prison system. As it became less profitable, the same reformers who had criticized the lease now complained about the increased costs to taxpayers (Finty 1914). Legislators were concerned with the drop in revenue and the increased burden on their tax-paying constituents. With leasing being phased-out, Texas found it had a large number of young, short-term prisoners on its farms. Pressured to make a profit, penitentiary officials unsuccessfully sought ways to compel convicts to work harder. The state expected its convicts to earn their keep, and state-owned farms provided a way to support the prison system and provide racialized labor control. Not only would African Americans work while incarcerated, they would be trained in extractive agriculture, thus providing a continuing source of labor once released.

Once the issue of leasing was resolved, reformers focused their efforts on ending whipping of convicts. All Texas convicts were subject to corporal punishment. When the Board of Prison Commissioners, at the behest of recently re-elected Governor Colquitt and reformers, banned whipping in 1912, the alternative punishments they devised, such as the dark cell, had deadly results.

Although the prison reform law did not outlaw whipping as punishment, reformers pressured the governor to ban its use on humanitarian grounds. Banning the whip also fit into campaign strategy for the candidates.

Oscar Colquitt won the election in 1910 largely because of his anti-Prohibitionist stance, but as part of his campaign, he had opposed both convict leasing and whipping as punishment. The new governor ended the lease two years earlier than mandated by the Reform Act (Gould 1973). While serving as Railroad Commissioner, Colquitt supported his predecessor, Thomas Campbell in the 1906 gubernatorial election, until he became disenchanted with Campbell and his "liberal" policies, including Prohibition. As Colquitt became more conservative, he began to oppose Campbell's agenda and pushed for limited government (Gould 1973). While Prohibition seemed to be the key dividing issue, Colquitt also resented convict leasing because he believed Campbell's friends and supporters directly benefited from the system (Gould 1973: Lucko 1987). Colquitt's move to end leasing before 1914 caused unforeseen problems for the prison system, including a dramatic drop in revenue that was being used to run the system. His stance on the use of the whip also caused difficulties in behavior, which translated into slower, less profitable labor that led some to advocate the return of that punishment.

During Colquitt's re-election campaign, former governor Campbell supported his opponent, William Ramsey, a former Chairman of the Board of the Prison Commissioners (Gould 1973). Perhaps in response to Campbell's renewed pressure, Colquitt reiterated his opposition to whipping convicts. Flogging convicts became a heated campaign issue when both Ramsey and Colquitt claimed to have been the first candidate to support its abolition (Finty 1914). Both men seized upon an issue that had gained national attention. In Delaware, for instance, the practice of public whippings was widely condemned as barbaric and "medieval."[14]

Editorials across Texas discussed the shameful practice in Delaware, while ignoring the use of the whip in Texas prisons. While the legislature had limited the use of the whip in the 1910 reform law, many felt this was not enough. In an editorial in the *Houston Chronicle*, Frank Putnam, a promoter of modernization, provided graphic descriptions of the brutalities of the whip and blamed brutal guards for the misuse of the strap (New York Times August 12, 1912). He inflamed public opinion against the whip because he related horrific stories about white men and boys being brutalized. Putnam recounted the tale of one white convict who came to his office and showed him the scars and welts from a flogging at a farm camp. Because the man had scars across his calves, this proved that the sergeant had violated the new regulation that only allowed a prisoner to be whipped between his hips and shoulders. The man claimed he was sickened by the "rotten salt-pork" they were fed in the morning and could not work at the pace set by the guard. The guard returned within an hour with a sergeant and the camp doctor, indicating that no official permission was obtained, as required by law. The man reported he was knocked to the ground with the wooden handle of the six-foot-long

[14] Frank Putnam, "Delaware and Texas," *Houston Chronicle*, March 8, 1912 and *New York Times*, April 6, 1912, "Saved by His Judge from the Whipping Post" (This article is about a convicted burglar sentenced to the whipping post. The judge received over 300 letters from across the country asking the judge to suspend the whipping. The convict, Richard Wright, was white.) See also, *The Sixty-Ninth Annual Report of the Prison Association of New York*, (1913), 22, for a discussion of the whipping post controversy.

whip. Several black convicts were told to strip him and hold him down. He received 22 lashes, which left him bloodied, sobbing, and weak (Putnam 1912). Putnam was shocked to learn that a man he had considered a friend had administered the lashing, saying the “evil system” had corrupted his once honorable friend. Putnam finished with a dramatic call for the legislature to ban the whip altogether:

> If the legislature of Texas at its next session does not absolutely prohibit the use of the lash upon prisoners, and does not lift off their backs the profit grinding machinery, for public and private gain, which now for commercial reasons is argued to require and justify the lash, then never again ought any Texas editor denounce the whipping post of Delaware. For it is less evil, less cowardly, for a state to bring its prisoners into the open light of day, and in the presence of an assembled crowd, to whip them, as Delaware does, than it is to condemn them to be lashed in secret, at the whim of irresponsible keepers, without public knowledge and with no means of keeping a check on such things, as does Texas (Putnam 1912).

After he won the election, Colquitt followed up on his campaign rhetoric by pressing for the abolition of the whip and the bat. In an address to the Thirty-Third Texas state legislature in 1912, he announced that he had requested the prison commission to abolish the use of the whip. Colquitt said:

> Before the legislative investigation, the severest brutalities were practiced in the handling and management of prisoners. They were whipped with leather straps 5 feet long, 3 inches wide and ½ inch thick, upon their naked backs… As long as I am governor of this state…[the whip] shall not be used again, if other measures of discipline can be made effective. The methods formerly used in punishing prisoners were out of harmony with the enlightened condition of this age (Texas Governor and Texas State Library 1916: 68).

At this point, Colquitt probably displayed the bat as he regularly did upon such occasions (Finty 1914). The new state law permitted the use of the whip on “grade-three,” or incorrigible convicts, if the guard obtained permission from his supervisor before administering the punishment. The Board of Prison Commissioners went further than the law required and banned the use of the strap on all prisoners unless guards and camp managers had exhausted all other means at their disposal to discipline the convict. Permissible disciplinary methods included the use of dark cells for confinement and chains for the immobilization of the prisoner. The legislature did not abolish corporal punishment altogether but created stricter guidelines for its use. Colquitt made it clear that while he was governor, he would not tolerate it as routine punishment. Removing the most effective way of coercing labor led directly to the end of the profitability of Harlem, the jewel of state-owned farms, as will be shown later in this chapter. Managers at the other state farms also complained about slow work and “lazy” convicts.

Another reform that was intended to improve the treatment of convicts was limiting their workday to ten hours. But, because the prison system relied heavily on farming as its main source of revenue, a ten-hour workday limited profit. Labor needs in both cotton and sugar farming fluctuated widely

during the year. At harvest time, ten hours was not enough time to process the crop. During the winter, when less work was needed, convicts were idle much of the time. By setting a ten-hour workday, with no flexibility to meet the rhythms of plantation agriculture, the reform law doomed the profitability of the prison farm system. With the new restrictions, state-owned prison farms could no longer continue to be the money-making machine they had been in the past, much to the chagrin of legislators and prison officials. Under the reform law of 1910, the penitentiary system quickly descended into debt. In 1911 and 1912 alone, the system lost over $1.5 million (*Texas Committee on Prisons and Prison Labor,* 1923*)*. Colquitt believed the debt equaled about $300,000, while the penitentiary auditor, A.W. Barton (the former private secretary to Colquitt's rival, former Governor Campbell), claimed it was $600,000 ("Audit is Ordered of Penitentiary Funds," March 8, 1912).

At the Governor's request, the Thirty-Third Texas State Legislature set up yet another investigating committee made up of members from the House and the Senate, to look into financial problems and abuses in the prison system. Colquitt addressed the joint committee of the House and Senate:

> Heretofore the convict has been measured in dollars and cents—by the money he could make for the State and the man to whom he was leased; driven by the bat and chased by the bloodhound that selfish men might fatten off his toil and unscrupulous politicians thrive by the convict's manipulation and misery. We started in to reform the penitentiary and to wipe away the blot and shame the brutalities practiced against the prisoners had brought upon the State (Texas Senate January 30, 1913, 297).

The "selfish men and unscrupulous politicians" to whom Colquitt referred were no doubt Campbell and his supporters who personally benefited from the lease system. Lieutenant Governor William H. Mayes stated that the committee's purpose was "to ascertain why it is that the penitentiary system under our present law has been losing money instead of making money" (Texas State Penitentiary 1913). In spite of Governor Colquitt's moving speech, profit was still the priority of the prison system, and that priority proved an enduring obstacle to reform measures.

This new investigating committee was comprised of chairman Mayes, John G. Willacy, and Robert L. Warren of the Senate, and R. B. Humphrey, William Diffie, and Leonard E. Tillotson of the House (Texas State Penitentiary 1913). The committee visited all of the prison farms and interviewed prison staff, some inmates, and local citizens, and submitted their report to Colquitt on July 24, 1913. They addressed the repercussions of the Reform Law of 1910, including the ten-hour workday, ending the lease, and the new commission system for management. They also investigated the effect of Colquitt's decision to end the lease three years earlier than required by law and his edict to ban the use of the whip on all convicts.

One of the main concerns of the commission was the financial losses suffered by the penitentiary system. On July 1, 1913, the legislature had been presented with an estimated prison debt of $1,656,835. This triggered the investigation as well as the authorization of $2 million in state issued bonds at 5 percent, using prison property, excluding the State Railroad, as collateral for the bonds (Miller 1916). The legislative committee ordered a thorough audit, and determined losses at Rusk, taking into consideration missing records, totaled $2,328,305 over earnings (Texas State

Penitentiary 1913). Not only had the iron industry been a financial disaster, the continued efforts to sustain it was “a stupendous folly” (Texas State Penitentiary 1913, 5). Other Rusk industries, like the box factory, had also been a failure. The penitentiary had succumbed to pressure from a small group of box manufacturers who objected to competition from the prison. Because of that pressure, the penitentiary only sold boxes to Cuba, at 20 percent below their value in the United States. Huntsville manufacturing was also a drain on the system, and recent fires had been costly to the state. The state-owned farms also showed a loss of $820,326 over the years 1911 and 1912. The committee believed the volatility of the sugar industry was the major contributing factor. The $75,000 spent on erecting a sugar mill on the Clemens Farm was “an inexcusable error of judgment,” that wasted public funds (Texas State Penitentiary 1913,18). They recommended planting more cotton and only growing enough sugar to supply the needs of the penitentiary.

The committee called Colquitt’s decision to end the lease early a grave mistake (Texas State Penitentiary 1913). The loss of lease income, they calculated, was nearly $700,000. When the reform law was being debated, the Senate had included a $500,000 appropriation to off-set the anticipated loss of lease revenue, but the governor refused to sign the law unless all appropriations were removed. With the loss of an average of $31 per leased convict, the penitentiary needed other funds to remain solvent. The committee believed public pressure to end the lease early for humanitarian reasons, had dictated government policy. No provisions were made by the legislature to make up the shortfall in income. In hindsight, they argued, public opinion should have been ignored and the lease should have been continued until 1914.

Because the lease was ending early, there were not enough farms to work convicts, so the state entered into a number of agreements to lease land from private individuals on which to work convicts. At first, the state paid for the rent with a share of the crop, but the auditor determined the state lost $154,457 in 1911 on these contracts. The state then entered into contracts to rent the land for money instead of shares. Losses from these contracts equaled $75,475 (Texas State Penitentiary 1913).

From the date of the ban on the whip, March 25, 1912, until the investigation in 1913, there were 1,476 convicts punished in the dark cell and 473 punished in chains (Texas State Penitentiary 1913). Adopting reforms, like ending leasing and flogging, without addressing the pervasive racism in Texas that demanded African Americans perform agricultural labor against their will, guaranteed reformers would fail. Derailed by a policy of racialized labor control, the Texas prison farm system was far from a progressive institution. After debating the recommendations of the 1913 Investigating Committee, the legislature passed several bills incorporating those suggestions. Governor Colquitt vetoed them all (Texas House of Representatives, 1913; Gammel 1913-1914).

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7.5 A History of Place: Historical Context of the Cemetery

7.5.1 Methodology and Resources

Prior to commencement of the field effort, archeologists reviewed historic aerial photographs, land grant maps, topographic maps, and a wide array of other resources pertaining to the project area (see section 2.8). These materials were used to identify historic structures within or near the project area dating between c1885 and 2016. The THC Atlas database was used to identify previously recorded historic sites in the near vicinity of the project area (see section 3.3). Information collected from the sources above was used to devise a research methodology that would provide, at minimum, adequate data on the presence and significance of cultural manifestations within the subject tract.

During the field effort, Sandra Rogers, retired curator of the Texas Prison Museum, and Don Hudson, local prison historian and retired Central State Farm prison guard, visited the site to offer their insights on the history of Bullhead Camp. Following the field effort, archival research was continued to better interpret resources identified during the survey and to better understand area history during the early settlement and antebellum era, the convict labor era, and into the Imperial Prison Farm era. Archeologists utilized the deed records of the Fort Bend County Clerk in Richmond to establish a general chain of ownership for the JRCTC. With nearly complete lists of previous landowners in hand; genealogical and historical research was conducted. The Local History and Genealogy section of the George Memorial Library offered a wealth of information including early tax records, general census records, slave census records, and marriage records. Pertinent early newspaper articles, reference book excerpts, maps, and photographs were accessed at the Texas Prison museum in Huntsville, Texas. Texas General Land Office (GLO) records, the *Handbook of Texas Online*, and other regional Texas census and tax records were also consulted. In addition, various other references and a number of web-based resources were utilized to gain insight into the lives of the previous landowners and to determine what impacts they made on the ground and on the history of this region of Texas. The following discussion of previous landowners will chronologically follow the chains of title for the subject tract.

It should be noted that throughout the research conducted, no reference to the Bullhead Camp Cemetery was ever found on any deed conveyance, topographic map, county map, or prison record. No vestige of a cemetery was noted on aerial photography ranging in date from 1930 to 2016 (see Section 2.8). Only one mention of a cemetery associated with Bullhead Camp was found. A description of how bodies were buried at the camps was given via testimony by a convict camp guard to a state senator during the State Senate Investigation into Convict Labor in 1909 (Texas, Special Committee on the Penitentiary 1909:732). This information was gleaned from the roughly 1,200-page senate investigation document by Sandra Rogers months after the cemetery was discovered.

The full text of this testimony is as follows:

-Convict Guard R. J. Richie, being sworn, examined by Senator Hudspeth.

> *Yes, sir; I have seen them buried. All except one buried with convict clothes on; coffin is made of rough lumber, clothing consisting of a shirt and pants. Coffins are made by the convicts on the camp, lined with nothing. Generally have on each camp what is known as "convict graveyard." The Bullhead Camp had a graveyard about 300 yards from the camp in the corner of a pasture. Yes, sir; as a rule, always put on a clean suit. In some cases I have seen new suits put on; other instances, washed suits. Yes, sir; never seen but one buried in citizen's clothes. An old convict died under Captain Harris's nephew; asked Captain Harris to bury him in citizens' clothes; that's the only one I ever seen buried in citizens' clothes. I never heard of them communicating with relatives before burying. One guard, as a rule, and three or four trusties go and put the corpse away. Yes, sir; about the ordinary depth of a grave. Had two dug myself and buried two while I was sergeant. Same old style been the custom. I remember putting a pillow under one convict's head last year, and I think had a little sheet, but as a rule, just lay them in the coffin, pine box. Put the name and registered number on the head of board.*

In truth, the cemetery at Bullhead Camp had to be found before the preceding testimony could be fully appreciated. This account of burial customs on the convict camps in general, and on Bullhead Camp in particular, corroborated well with the conditions of the burials as observed during exhumation. This data is one example of what lay hiding within the archival record and what can be found by tenacious archival research.

7.5.2 Original Area Land Grant Holders

7.5.2.1 Mills M. Battle League

The cemetery lies directly east of the Mills M. Battle land grant which was originally comprised of one league or 4,428 acres (1,792 ha) of land. The league fronted the Brazos River along its southern edge and extended northward across Oyster Creek. The land grant was deeded to Battle on 31 May 1827 (GLO 2015a). Battle was born in New Orleans, Louisiana on 20 February 1800 (Handbook 2010a). He came to Texas as a member of the "Old Three Hundred" and was partners in the carpentry trade with Manders Berry (Handbook 2010a). He voted in the alcalde elections of 1824 while living in San Augustine and served as alcalde in 1827 (Handbook 2010a). The 1826 census showed Battle to be married with one daughter, though his wife Mary died in 1837 (Handbook 2010a). Having moved to Fort Bend, Battle served as president of the group at Stafford's Prairie, who chose delegates to the Convention of 1836 (Handbook 2010a). He served as justice of the peace, deputy clerk, notary public, and county clerk in Fort Bend County and nominated Sam Houston for Republic of Texas President and James B. Miller for State of Texas Governor (Handbook 2010a). Battle died on 15 January 1856 and was buried at the Morton Cemetery in Richmond, Texas (Find-a-Grave 2015a).

Battle began selling off portions of his Fort Bend County League in 1838 (Fort Bend County Clerk A: 88), but his conveyance of the land where the current project area is located occurred in 1848 (Fort

Bend County Clerk B: 342). During Battle's ownership, it is uncertain how his Fort Bend League was used. In fact, he seemed to have avoided paying taxes on the majority of his Fort Bend County lands. According to available Fort Bend County Tax Rolls, Battle paid taxes only on saddle horses in 1838, 1839, and 1840. He was taxed on lands he held in Bexar and Matagorda Counties in 1841. In 1842, he was taxed on 200 acres within Fort Bend County and seven town lots in Richmond. In 1843 and 1844, there were no changes in his taxable assets. In 1845 and 1846, he was taxed on the same 200 acres and nine Richmond lots. In 1847, Battle paid taxes on land in Milam and Goliad Counties and on three tracts in Bexar County as administrator for his first wife's estate. He paid taxes on seven Richmond town lots in 1848. In 1849, he was taxed on 200 acres in Fort bend County and eight lots in Richmond. In 1850, Battle showed ownership of large tracts of land in Goliad, Medina, Bexar, Fort Bend, and Milam Counties, having paid taxes on a total of 4,134 acres, as well as nine Richmond town lots. In 1851, he was taxed only on 20 Richmond town lots. The last year that Battle shows up in the tax records, he was taxed on large tracts in Goliad and McClellan Counties, as well as the 200 acres in Fort Bend County.

Throughout Battle's tax history, he was never taxed for slaves he owned. The only evidence that Battle owned slaves appears in the 1850 slave census for Fort Bend County, where a single female slave (18 years of age) is associated with his name (Fort Bend County Slave Census 1850). No record of her name could be found. It is clear that Battle was not a planter, but a politician and public servant for the majority of his life in Texas. He never owned any large tract of land long enough to develop it into a profitable plantation. He did seem to buy and sell large tracts of land in many counties, as well as numerous town lots in Richmond, as a source of income.

7.5.2.2 The Alexander Hodge League

The Bullhead Camp Cemetery falls entirely within the Alexander E. Hodge League. The land grant was deeded to Hodge on 12 April 1828 (GLO 2015b). Hodge was born in Cumberland County, Pennsylvania around 1760 (Crain 2010, DRT 1995), although his grave marker gives a date of 1757. He fought with the "Swamp Fox", Francis Marion, during the American Revolution then moved to Oglethorpe County, Georgia where he read the law and raised a large family (DRT 1995). He served as a judge in Lawrence County, Arkansas where he met Stephen F. Austin. Hodge decided to move his family to Texas between 1824 and 1826 and was deeded a league of land (Crain 2010, DRT 1995), east of the current project area. The Hodge League was positioned on the north side of the Brazos River and was traversed by Oyster Creek. The plantation became known as Hodge's Bend and was a well-known stopping place for travelers (Crain 2010).

While Alexander Hodge did not serve in the Texas Army or militia, his sons did take part in the fighting of the Texas Revolution. While residing on his plantation, Hodge was in the direct path of the Mexican Army advance in April 1836. He gathered his family and slaves and led them away from the advancing Mexican forces during the "Runaway Scrape". The group had camped in a thicket so near to San Jacinto, on 21 April 1836, that they heard the sounds of gunfire from the battle (Crain 2010). Hodge fell sick after his return to Hodge's Bend and died there on 17 August 1836.

The Hodge's Bend Plantation was divided among Alexander's surviving children, but the conveyances appear to have been caught up in probate for years (Fort Bend County Clerk B: 270).

The children receiving estate property and paying taxes on that property were Archie Hodge, Abner A. Hodge, Alex E. Hodge, and Ruth Hodge Harris. In 1840, Archie Hodge purchased approximately 1,200 acres within the Mills M. Battle league, which contained the southern portion of the project area. In that same year, he paid taxes in Fort Bend County on 1,455 acres of land. On the 1850 slave census for Fort Bend County, Archie Hodge was listed as owner of nine slaves; seven of which were listed as less than 15 years of age. On the 1860 Fort Bend County slave census, Archie Hodge was listed as owner of six slaves, five of which were female, ranging in age from four to 50, and one 45-year old male. In the same year, Abner A. Hodge was listed as owner of one 27-year old female slave. Alex E. Hodge was listed as owner of three slaves, two female (14 and 31 years old) and one male (12 years old). No male or female associated with the name Harris was found in the slave census records for Fort Bend County and no record of the names of any of the Hodges' slaves was found. More than 2,000 acres within the Hodge League appear to have been conveyed to Ruth Hodge Harris in 1847. The Hodge family land holdings increased in other parts of the new republic and by the time of statehood in 1845, the brothers owned full leagues of land in Montgomery and Harris Counties. By 1852, the Hodge brothers held less than 800 acres of the original Alexander Hodge League. On 13 October 1854, Archie Hodge conveyed 126.5 acres of his holdings within the Mills M. Battle League, to John H. Walker, a brother-in-law who had married his sister, Clarinda Hodge (Fort Bend County Clerk C: 330). In 1860, Ruth Harris conveyed a total of 2,657 acres of land, comprising half of Hodge's Bend, to William Freeman, Sr.

7.5.3 John H. and Clarinda Hodge Walker

John H. Walker purchased 126.5 acres of land from Archie Hodge in 1854 (Fort Bend County Clerk C: 330), which contained a southern portion of the current project area. Walker also purchased 536 acres of land within the Hodge League in 1852 (Fort Bend County Clerk B: 745) and partnered on a land purchase near Richmond in 1853 (Fort Bend County Clerk C: 128). Walker does not appear in the available tax records for Fort Bend County. It seems that for the majority of this married life, he owned no land or other property on which he would have been taxed.

Not much information about the life of Walker was found. Walker married Clarinda Hodge, daughter of Alexander Hodge, on 26 July 1838 (Fort Bend Marriage Records Book A). The ceremony was officiated by justice of the peace and local landowner Daniel Perry. According to land conveyance records, Walker had partnered with William Joseph Stafford Jr., son of Old Three Hundred settler William Stafford. The elder Stafford died in 1840, but his plantation, Stafford's Point, became a stop along the Buffalo Bayou, Brazos, and Colorado Railroad when it passed through in 1853. It seems no coincidence that another rail stop was constructed along the same railway to the west of Stafford's Point on a part of the Battle League that partner John H. Walker had recently purchased. Walker obtained his portion of the Battle League in 1854 and died before 29 December 1857 (Fort Bend County Clerk D: 607). Walker's Station, which stood along the south boundary of the project area, must have been built during this timeframe. On 17 August 1860, it appears that Walker's widow, Clarinda, conveyed the tract containing Walker's Station to Felix G. Secrest.

7.5.4 Felix Secrest and Descendants

Felix G. Secrest came to Texas with his brother, Washington, in 1835 (Cutrer 2010). Felix seemed to have stayed in Colorado County longer than his brother. He was first taxed in Fort Bend County in 1846. That year he paid taxes in Fort Bend on nine slaves and nine head of cattle, but he paid no tax on land holdings anywhere in the state. In 1847, he paid tax in Fayette County, but no acreage was given. In 1848, Felix was taxed on 9 lots in the Richmond area and an undisclosed amount of livestock. After three years in the Fort Bend area, he finally bought land, 150 acres within the Mills M. Battle League. This tract would not have contained a portion of the current project area.

Felix Secrest paid tax on the same acreage in 1850 and 1852, but the tax collector skipped him entirely in 1851. While Felix Secrest was not taxed on any slaves he owned in 1850, the Fort Bend County Salve Census from 1850 records shows nine slaves associated with his name; a male of 45 years of age, a female of 50 years, a female of 20 years, a male of 18 years, a female of 12 years, a male of 11 years, a male of nine years, a male of four years, and a male of two years. No record of the names of those held in bondage was found. In 1853, his holding within the Battle League increased to 250 acres. In 1854, the year his brother died in Columbus, Felix was taxed on the same 250 acres and a valuation of the holdings were given at $1,500. The valuation of his Battle parcel stayed the same until 1856, when the 250 acres were appraised at $2,500. That same year, Felix Secrest was taxed for 11 slaves, 30 horses, and 158 head of cattle. His total net worth was appraised at $9,560. In 1857, he was taxed on the same acreage, 12 slaves, 30 horses, and 208 head of cattle with a total valuation was appraised at $10,960. In 1858, Secrest was taxed on 290 acres within the Battle League valued at $3,480, 16 slaves, 40 horses, and 250 cows for a total net worth appraised at $15,130. In 1859 he paid tax on 170 acres within the Battle League worth $2,550, 146 acres within the Hodge League worth $1,752, 19 slaves, 45 horses, and 308 head of cattle with a net valuation of $20,362.

The following year, he reduced his acreage within the Hodge League to 98 acres, which appraised for $2,900, increased his holdings within the Mills M. Battle League to 436.5 acres appraised at $13,230. He was taxed on 21 slaves, 45 horses, and 45 head of cattle. His 1860 Battle League addition included 127.6 acres of land from Clarinda Walker, widow of John H. Walker (Fort Bend County Clerk F: 638). This parcel was purchased for $3,190, or just over $25 per acre. The 1859 appraisal of Secrest's land holdings reflects a value of roughly $15 per acre. The land acquisition from Clarinda Walker was responsible for an increase in Secrest's taxable worth by roughly $9,000, which would reflect a land appraisal of roughly $70 per acre based on improvements made to the land, namely Walker Station and its surrounding structures along what was then called the Galveston, Harrisburg, and San Antonio Railroad. According to the 1860 Slave Census of Fort Bend County, there were 19 slaves attributed to Felix G. Secrest. The list included a male of 56 years of age, a female of 50 years, a female of 40 years, a female of 35 years, a male of 26 years, a male of 30 years, a male of 30 years, a female of 20 years, a female of 21 years, a female of 13 years, a male of 17 years, a male of 12 years, a male of 11 years, a male of 9 years, a female of 5 years, a male of 4 years, a male of 2 years, a male of 3 years, and a female of 24 years. When comparing the individuals attributed to Felix Secrest listed on the 1860 slave census with those listed on the 1850 census, it becomes apparent that only one individual, listed in 1850 as a 45 year old male and

in 1860 as a 56 year old male could possibly be the same person. No other individual was of the correct age or sex to have been the same person on both census lists.

Through the war years, Felix Secrest maintained the same parcels within the Battle and Hodge Leagues valued at $8,730 and $1,960, respectively. The taxable valuations on the land stayed the same from 1861 through 1866. His slave holdings increased from 23 individuals in 1861 to 26 individuals in 1864. That year he showed a maximum net worth of $43,813. In 1864, Secrest also reported $10,500 cash but no mention of livestock was present in the tax rolls. After the war, Secrest returned to livestock. The first tax appraisal after the war (1865), showed his taxable assets of land, 60 horses, and 30 cows worth $12,490. The value of the land and of livestock continued to depreciate through the late 1860s to the end of Reconstruction. Felix Secrest died on 21 October 1870 and is buried at the Hodge's Bend Cemetery.

The land along the Galveston, Harrisburg, and San Antonio Railroad, including Walker Station, was conveyed in subdivided lots to each of the Secrest children in a decree of partition dated October 1875 (Fort Bend County Clerk K: 675). After the partition, the lots did not stay in the Secrest family for long. One of the lots was sold by Robert Y. Secrest to Nelson B. Dunlavy in February 1878. This conveyance included the Secrest family homestead described as being located at Walker Station.

7.5.5 Nelson Burton Dunlavy

During the fifteen years between statehood and the beginning of the Civil War, Fort Bend County saw a dramatic increase in the size of plantations and the overall production of sugarcane and cotton. Sugar production required a huge amount of manpower (Ivan 2010). In response, planters acquired more slave labor and amassed larger parcels to put under cultivation during the 1850s. An elite class was created by this trend. Nelson Burton Dunlavy was one of the planter elite of Fort Bend County.

Nelson Dunlavy was born in Madison County, Alabama in 1831 (DRT 1995). He moved to Fort Bend County, Texas with his parents and older brother as one of Stephen F. Austin's colonial families in approximately 1833. He met Mary Hodge Pevehouse and they were married at Hodges Bend in 1853. Their daughter Hettie Ellen Dunlavy married into the Secrest family. Nelson held a lease for convict labor as early as 1877. The convict labor camp was located north of the Brazos River at the south end of the old Alexander Hodge League. Nelson Dunlavy died in 1881 and a portion of his land holdings where the convict camp was located was sold to Littleberry Ambrose Ellis in 1882 (Fort Bend County Clerk O:14).

7.5.6 William and James Freeman

Just as Nelson Dunlavy, William Freeman was one of the antebellum planter elite of Fort Bend County. After purchasing approximately half of the Hodge's Bend Plantation in 1860, he became the third-largest slave owner and the sixth-wealthiest man in the County (Fort Bend County tax records 1860, Ivan 2010). Earlier the same year, on 14 January 1860, Freeman took a mortgage of $41,750 for the purchase of 31 slaves including 16 males and 15 females (Fort Bend County Clerk F:191).

Starting in 1860, William Freeman paid taxes in Fort Bend County on an estate worth more than $166,975, which included 2,657 acres of the Hodge's Bend Plantation and 94 slaves. The land

valuation for the acreage alone was $66,425 (Fort Bend County tax records 1860). In 1865, nearing the end of the American Civil War, the same property had a valuation of $44,283. The rise of the wealthy planter class in Texas took a dramatic turn with the abolition of slavery (Ivan 2010).

On 5 January 1866, William Freeman conveyed a portion of the Hodge League to his son James Freeman for the sum of $5,050 (Fort Bend County Clerk G:761). James Freeman married Rosa L. Dunlavy, a daughter of the once-prosperous local planter. In the mid-1870s, Freeman established a convict labor camp on the plantation where he had cultivated sugarcane and cotton crops with slave labor. By 1880, James Freeman was one of the last three remaining landowners with estates worth more than $10,000 in Fort Bend County (Ivan 2010). Over 2,500 acres of the Hodge's Bend property sold to Littleberry Ambrose Ellis (Fort Bend County Clerk N:34). Ellis took possession of the property where Freeman's convict labor camp was located in August of 1880.

The 1880 Census of Fort Bend County listed a single string of 43 entries for state convicts on the census record completed on 18 Jun 1880 (Fort Bend County Census 1880). The data suggests Freeman had a labor force of 43 men in Jun 1880, just two months before he sold to L. A. Ellis. This labor force would become known to the prison system as L. A. Ellis Lease on Bullhead Camp in August 1880. By 1900, it appears the Freeman family had sold all of their Fort Bend County land holdings and no longer paid property taxes in the county.

7.5.5.1 James Freeman's Valuable 2 Acres

On 7 October 1872, a conveyance of 2 acres near Walker Station was made to James D. Freeman, son of wealthy antebellum planter William Freeman (Fort Bend County Clerk J: 458). The conveyance mentioned a sale price of $200, or $100 per acre; quite a markup considering the entire tract of 760.5 acres sold for $6,003.95 or $7.90 per acre. This conveyance was also accompanied by a survey plat depicting the exact location of the 2-acre tract, as well as the railroad, Walker Station, and Oyster Creek. Furthermore, another conveyance that details the location of the 2-acre tract places it: "lying and immediately adjoining and west of the Walker Station Depot and on the north side of the Railroad tract (sp)" (Fort Bend County Clerk L: 736). When scaled and overlaid on 1953 aerial photo, it becomes obvious that this valuable tract was directly associated with Walker Station in the early 1870s. According to deed conveyances, Freeman sold the 2 acres to E. B. Lomax on 11 August 1880 for $1,200 (Fort Bend County Clerk N: 41). Lomax then sold the property back to Freeman on 9 December 1881 for $900 (Fort Bend County Clerk N: 707). Improvements to the property are described in the conveyance as "the Lomax Store". James Freeman would eventually sell some 2,572.2 acres, including the valuable 2 acres, to Littleberry Ellis (Fort Bend County Clerk N: 34).

7.5.7 Littleberry Ambrose Ellis and His Heirs

Littleberry Abrose Ellis was a born in Jackson County, Mississippi on 11 December 1827 (Find a Grave 2015b). A Littleberry Ellis, likely L. A. Ellis's father, appears in Hinds County, Mississippi on the 1830 census along with "three whites and 15 slaves" (Hinds County Census 1830). In 1851, L. A. Ellis 1851 moved to Lafayette County, Arkansas, where he met Pink Owen, who became his wife in 1855 (Layette County Marriage Records 1855). Two children were born to the couple before the Civil War. L. A. Ellis followed his grandfather, Ambrose Ellis, and his uncle, Richard Ellis (Daniell

1890) to Texas before 1860. He first appears in Bowie, Texas on the 1860 census at 32 years of age with his wife Pink (19), son Marcus (4), and son William (2). He is listed as a farmer having real estate valued at $3,500 and a personal estate valued at $1,175 (Bowie County Census 1860). Pink Owen Ellis died in 1861 at 20 years of age (Find a Grave 2020) and was buried with her parents in Lafayette County, Arkansas. Ellis claimed that he enlisted to fight in the Confederate Army in 1861 and served in Wheeler's Artillery Division until discharged in 1865. However, no record could be found of his service.

L.A. Ellis next appears in the 1870 census in Marion County, Texas at 42 years of age (Marion County Census 1870). He appears to have remarried 23-year-old Amanda Mitchell. They are listed with their children Marcus (13), Willie (12), Caswell (2) and daughter Sartartia (3). He is listed as a Grocer Wholesale having real estate valued at $5,000 and a personal estate valued at $8,000. L. A. Ellis next appears on the 1880 Census at 52 years old in Walker County, Texas (Walker County Census 1880). He is listed as Lessee Penitentiary. His wife Amanda (32) appears along with their children William (22), Pink Owen (18), Sartartia (13), Caswell (11), Emmett (6), and Indian (4). Also listed is a girl named Leigh (between 8 and 12).

L. A. Ellis began buying property in Brazoria County in 1877, starting with the old Halcyon Plantation (Brazoria County Clerk Q:191). At this time, Ellis acquired a lease of labor from the penitentiary at Huntsville to begin growing sugarcane. By 1880, Ellis would have a labor force of 41 men on his Brazoria plantation. He continued to purchase lands contiguous to the Halcyon plantation, eventually buying the Coffee Plantation on the east side of Oyster creek (Brazoria County Clerk R:394). The corporation of Dewy, Ward, and Patton, the original lessees of the Huntsville Penitentiary since 1871, had lost their lease due to various controversies in 1876 (see section 7.4). The State of Texas issued a new set of rules and standards for future lease of the prison and issued a new request for proposal by early 1877. Numerous proposals were received, but in January 1878, the state awarded a five-year contract to two partners, Edward H. Cunningham and Littleberry A. Ellis.

The firm of Cunningham and Ellis leased the prison together and made a fortune in lease payments. Much of the profit they made from labor leasing was put into the acquisition of land. Cunningham had been a resident of Bexar County and had a small labor lease there on his cattle ranch. Cunningham began amassing land in Fort Bend County, Texas, that would eventually total 12,500 acres. L. A. Ellis purchased an active labor camp and associated agricultural fields in Fort Bend County from James A. Freeman. He then purchased another existing camp from the Dunlavy family north of the Brazos River. Eventually, Ellis amassed 5,300 acres, which he named Sartartia Plantation after his daughter. The men kept their agricultural business concerns, including their agricultural land holdings and the labor leased to work them, mostly separate, but all of their enterprises revolved around the cultivation of sugar.

While Edward Cunningham was purchasing massive amounts of land within the Samuel May Williams League, Littleberry Ellis purchased portions of antebellum plantations within the Mills M. Battle and Alexander Hodge Leagues to the north and south of the Galveston, Harrisburg, and San Antonio Railroad and Walker Station. Ellis's land purchases included parcels from James Foster Dyer on 5 September 1881 (Fort Bend County Clerk N:581); James D. Freeman and Rosa Freeman

on 17 July 1880 (Fort Bend County Clerk N:34) and 16 October and 21 March 1882 (Fort Bend County Clerk O:511 and O:149); E. B. Lomax and Jodie Lomax on 13 December 1883, which may have included the Walker Station depot or the Lomax Store (Fort Bend County Clerk P:498); M. A. Secrest on 15 December 1882 (Fort Bend County Clerk O:560); and A. G. Secrest on 14 October 1882 (Fort Bend County Clerk O:454).

On Sartartia Plantation, prisoners were housed on three camps with large rectangular sleeping units or dormitories (Fort Bend Herald 2006). With little oversight from the state, labor lessees subjected convicts to long days of grueling labor in the interest of producing the area's principal cash crop. Between 1878 and 1908, sugarcane was cultivated, harvested, then hauled by ox cart to the old Samuel May Williams sugar mill, located north of the train tracks (and US 90 Alt), which had been improved and expanded to incorporate more modern processing methods (Armstrong 1991). In 1883, Cunningham and Ellis built the Imperial Sugar Mill. At that time, Ellis paid tax on 1,964 acres of land within the Mills M. Battle League, 3,630 acres within the Alexander Hodge League, and $25,000 worth of manufacturing infrastructure, 198 horses and mules, 20 head of cattle, and 15 hogs. His net worth at the time was appraised at $102,451; the equivalent of $2.6 million in 2020. However, in late 1883 Cunningham and Ellis dissolved their partnership. Ellis retained his 5,300 acres, including the old Imperial Sugar Mill. Cunningham retained 12,500 acres and the new sugar mill. Cunningham continued to develop and modernize his sugar refinery while Ellis continued to grow sugarcane with the use of prison labor. In the early 1890s, Ellis built approximately 7.0 miles of private rail to bring sugarcane from his southern neighbors to the mill. Littleberry Ellis died on 11 December 1896 at his home in Austin, Texas, only 2 months after his eldest son William was killed in a dispute with a convict guard. L. A. Ellis was buried at the Oakwood Cemetery in Austin, Texas.

The state named labor forces by the name of the lease holder. In the case of a lease holder having multiple camps, the forces were numbered. Guards working the camp used names that did not change and were usually based on a geographical feature. A case in point, prison records indicate that the J.A. Freeman lease in Fort Bend County changed to the L.A. Ellis #2 lease with his purchase of the farm in 1880. When Ellis gave up his lease in Brazoria County in 1885, his Fort Bend County lease changed to the L.A. Ellis #1 lease. When L.A. Ellis died in 1896, the lease was taken over by his son, Caswell G. Ellis. The name of the lease changed to C.G. Ellis #1. C. G. Ellis continued to cultivate sugarcane on Sartartia until he was killed in a dispute with a tenant farmer while attempting to evict.

Amanda M. Ellis, L. A. Ellis's widow, assumed control of Sartartia Plantation, but the land fell into receivership. On 23 November 1907, A. M. Ellis and her daughters sold Sartartia to the Imperial Sugar Company (Fort Bend County Clerk 42: 575). In 1908, the land changed hands a final time when it was purchased by the State of Texas for use as a prison farm (Fort Bend County Clerk 43: 214). Up until this time, prison guards referred to this same piece of ground as the Bullhead Camp. In the prison records, the camp was formalized as Imperial Prison Camp #1.

According to the Biennial Reports of the Penitentiary, the Ellis's used labor leased from the prison at Huntsville on Bullhead Camp between 1880 and 1906. The numbers of convicted men on hand and other pertinent data are presented in Table 7.5.1 below. How the data is provided in the biennial

reports changed through time and caveats are indicated with asterisks and described below the table for clarification.

Table 7.5.1: Inmate Population on Bullhead Camp Through Time

Date of Record	Number of Men on Hand	Escaped	Died
1880[a]	57	No Data	No Data
1882[a]	113	No data	No Data
1 November 1884	216	11	16
31 October 1886[b]	180	17	27
31 October 1888[b]	143	15	31
31 October 1890[b]	167	10	20
31 October 1892[b]	156	10	5
31 October 1894[b]	154	22	8
1 November 1896[c]	0	6	1
31 October 1898[d]	99	4	2
1 November 1900	95	12	6
31 August 1902	60	5	3
31 August 1904	65	4	2
31 August 1906[e]	0	0	0
31 August 1908[f]	168	1	1
31 August 1910[f]	387	12	6

[a] No data on escaped or deceased inmates
[b] Data for all L.A. Ellis camps in Ft. Bend County combined
[c] Forces discontinued and recalled to prison due to L.A. Ellis death in 1896
[d] Labor forces continue under C.G Ellis in 1898 report
[e] Forces discontinued and recalled to prison due to C.G. Ellis death in 1906
[f] Sartartia sold to State. Bullhead Camp becomes the Imperial State Farm, Camp Number 1 in biennial reports

7.5.8 Eldridge and Kempner

Eleven years after L. A. Ellis's death, and one year after C. G. Ellis's death, L. A. Ellis's wife and daughter-in-law came to an agreement, in April 1907, regarding the sale of the 5,435-acre Sartartia Plantation to Ike Kempner and W. T. Eldridge, which was finalized by deed conveyance in February 1908 (Fort Bend County Clerk 42: 575). The sale of the plantation to Imperial brought Ellis's family $210,000. The partners were in the process of buying out Cunningham's Imperial Sugar Company at the time, and the Imperial Sugar Company would not keep the Plantation for long. The plantation was sold, excepting the right-of-way of the Imperial Valley Railroad, which bisected the plantation on an east–west axis, to the State of Texas for use as a state-run prison farm (Texas State Senate Journal 1913:346-352). The Imperial Sugar Company used the sale of Sartartia to leverage a low rate for labor and low cost for sugarcane produced by the State of Texas Prison System. In fact, the Sartartia Plantation was sold to the state for $160,000, netting Imperial a loss of $50,000 cash. The arrangement between the state and Imperial Sugar Company was not to last. In 1910, prison reform

stopped the use of convict labor for private enterprise in Texas and the practice was abolished by 1912.

Although the Imperial Sugar Company, directed by Eldridge and Kempner, did not take part in the use of convict labor for the purpose of growing sugarcane, there is a clear record of their use of convict labor as sugar mill workers between 1909 and 1912. Proof of this can be seen in the conduct record of Alfred Davis, inmate number 20948 (Figure 7.5.1). Davis was sent to Huntsville penitentiary on a 25-year sentence in 1901. He spent two years with the railroad forces and was issued to the sugar camps of Fort Bend County including Harlem and Cunningham's Camp Number 5. After Imperial Sugar Company was obtained by Eldridge and Kempner, Davis was sent to work in the sugar mill in Sugar Land in 1911. On 1 February 1912, exactly one month after the abolition of convict labor in Texas, Davis was sent to Imperial State Farm located one mile to the west of the sugar mill. One month later he died of pneumonia on the camp. Alfred Davis is buried at the Old Imperial Prison Farm Cemetery, the second inmate to be buried there.

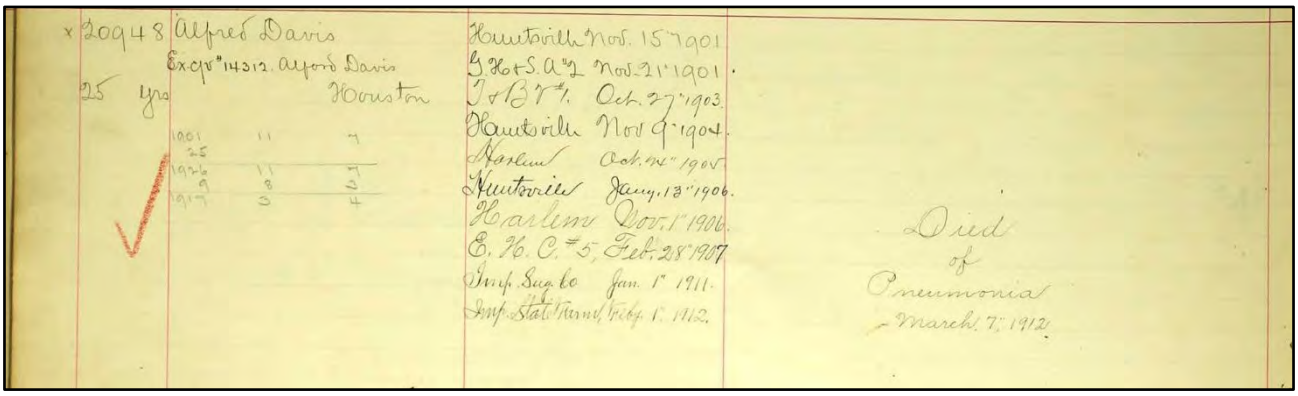

Figure 7.5.1: The Inmate Conduct Card of Alfred Davis, Texas State Penitentiary.

7.5.9 Imperial Prison Farm/Central State Farm

At that time, the Texas prison system focused on self-sufficiency. The Imperial Prison Farm continued providing convict labor to the local sugar industry until 1910, when the state legislature passed a reform bill that ended the practice. By 1912, the Imperial State Farm Cemetery was established. More than 30 graves, many of which are the resting place of African-American inmates, date between 1912 and the 1930s (Sessums 1994). Prior to the discovery of the Bullhead Camp Cemetery, no formal cemetery associated with the prison farm could be identified prior to 1912. However, more than half a dozen other cemeteries with interments dating prior to 1912, were identified on the lands once known as the Sartartia Plantation, outside of the current project area.

Between 1910 and 1932, inmates lived in housing units, much as they had during the Ellis and Cunningham tenure. Some of these housing units were located south of the modern railroad tracks paralleling US 90 Alt. The locations of the three early prison farm camps were clearly identified on the 1934 topographic map although the modern 1932 prison structures are not present. The original Central State Farm, Camp 1, was located north of the JRCTC on the south side of US 90 Alt. Camp 2 was located on the south end of the Mills M. Battle League on the north bank of the Brazos River. Camp 3 was located on the north end of the Alexander Hodge League. No early prisoner housing

could be identified within 1 mile of the current project area. However, a large meat-packing plant was identified in the area that should have been occupied by the 1932 prison facility. In the 1920s, state prison reforms resulted in eventual improvements to inmate living conditions. Construction of the Central Unit building, located north of US 90 Alt, was started in 1930. Completed in 1932, the facility opened as the first modern prison in the Texas system. It is located 2.5 miles north-northwest of the subject tract. Housing for guards and administrative staff was added shortly thereafter. The Imperial Prison Farm was renamed the Central State Farm.

The 1932 Central State Farm Prison was a medium security facility and housed Anglo inmates in a racially segregated system. For the next seven years, minority inmates continue to be housed at the old camps until construction of a large brick facility south of the railroad tracks in 1939 (also known as Two Camp). This structure was located approximately 1.2 miles south-southeast of the subject tract. The 1939 Central State Farm Prison, Camp Two, also known as “Two Camp”, was constructed specifically for the internment of African-American inmates.

By 1932, the secured area of the prison consisted of the main unit building and prisoner dormitory, a powerhouse, a meat-packing plant, a laundry facility, and a cannery. The first guard housing consisted of five wood-framed bungalows located just south of the main prison building. By 1940, a cotton gin and seed house, constructed of brick, was added. Through the late 1940s and early 1950s, the prison was dramatically improved with the addition of numerous bachelor and family residences for guards constructed of brick manufactured at the Harlem Prison, which was located west of Central State Farm Prison. The late 1950s saw the addition of Smithville, a guard housing project constructed on the interstice between Blood Lake and another oxbow lake to the northeast of the project area. During the 1960s, the prison expanded its manufacturing and distribution capabilities. At this time, additional housing units were added just south of the residential block within the project area. The 1970s saw modernization of utilities at the prison with the addition of a modern wastewater treatment plant and conversion from on-site diesel/electric power generation to grid/electric power. Numerous expedient structures (Quonset huts) were added for use as storage and maintenance buildings. During the 1980s and 1990s, numerous prisoner dormitories were added to the east of the main unit building, within the secured area. By the time of its closure in 2011, the prison would regularly house 1,000 inmates.

Complete archeological and geophysical studies were conducted by Goshawk at the Central State Farm Prison in 2015. For more thorough documentation and description of the prison’s history, please see the reports of investigations entitled *Intensive Mechanically Augmented Archeological Survey of the 95.5-acre Sugar Land Regional Airport Expansion Tract* (Clark and Ralph 2015a) and *Intensive Mechanically Augmented Archeological Survey of the 163-acre Central State Farm Prison Tract* (Clark and Ralph 2015b). A complete architectural assessment of structures, associated with the Main Unit of the Central State Farm Prison, was conducted by Eugene Foster in July 2015. For more thorough documentation and description of the prison structures, please see the report of investigations entitled *Historic Resources Reconnaissance Survey for 154.4-Acre Central State Farm Tract (Foster 2015)*.

Between 1909 and the sale of the land to a private corporation in 1995, the JRCTC area was in use by the State of Texas and the Texas Department of Criminal Justice for the housing of inmates; for the cultivation of irrigated crops; for the processing, manufacture, and distribution of goods; and as the residence of guards and the warden of the prison facility. By 1932, the Central State Prison Farm, Unit Number One, became the first modern prison in the Texas penal system and was, for many years, the prime example of prison reform and modernization in the state.

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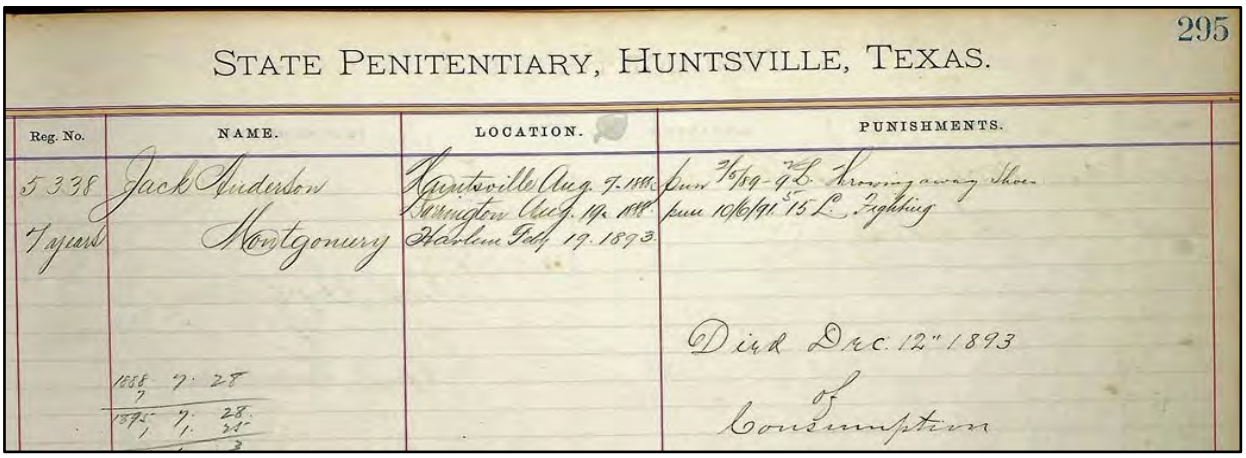
7.6 UNDERSTANDING THOSE WHO DIED HERE: RECORDS OF THE DECEASED

7.6.1 How the Data was Collected

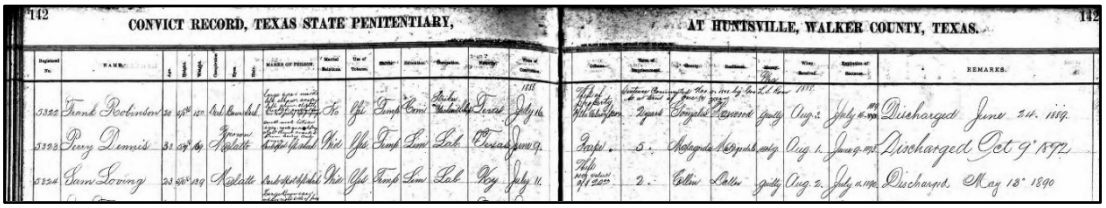
The information for the database presented in this chapter was collected by Sandra Rogers, retired curator of the Texas Prison Museum. The data was obtained from original Texas State Penitentiary documents, including, but not limited to, official conduct cards (Figure 7.6.1) and convict records (Figure 7.6.2). Additional public death records for Fort Bend County were provided by Bob Crosser, commissioner of the Fort Bend County Historical Commission. Ms. Rogers searched countless conduct cards identifying inmates associated with any of Ellis's camps located in Fort Bend County. However, the names of the camp listed only reflected the name of the leaseholder that ordered the laborers from the prison under contract. Through time, the name of the camp during any span of time was very poorly documented.


295

STATE PENITENTIARY, HUNTSVILLE, TEXAS.

Reg. No.	NAME.	LOCATION.	PUNISHMENTS.
5338	Jack Anderson	Huntsville Aug. 7. 1888.	June 3/89 - 4 L. throwing away shoes
7 years	Montgomery	Harlem Feb 19. 1893.	June 10/6/91. 15 L. fighting
			Died Dec. 12" 1893 of Consumption

Figure 7.6.1: Example of Inmate Conduct Card (Texas State Penitentiary 1893)


112 CONVICT RECORD, TEXAS STATE PENITENTIARY, AT HUNTSVILLE, WALKER COUNTY, TEXAS. 112

Reg. No.	NAME.	Age	Height	Weight	Complexion	Sex	Nativity	MARKS OF PERSON.	Marital Relation	Use of Tobacco	Habits	Occupation	Religion	Crime	Term of Sentence	Time of Commitment	Where Sentenced	Time of Sentence	Where Sentenced	Crime	Term	Time of Commitment	Where Received	Expiration of Sentence	REMARKS.
5322	Frank Robinson	26	5ft 8in	150	Dark	Male	Mulatto	[illegible]	No	Yes	Temp	Farm	Baptist	Murder	Life	July 16. 1888	Tarrant	2 years	Tarrant	Murder	Life	Aug. 2.	July 16. 1889	Discharged	June 24. 1889.
5393	Perry Dennis	31	5ft 6in	164	Yellow	Male	Mulatto	[illegible]	Wid.	Yes	Temp	Farm	Lab.	Murder	Life	June 9.	Tarrant	5.	Montgomery	Murder	Life	Aug. 1.	June 9. 1892	Discharged	Oct 9. 1892
5324	Sam Loving	23	5ft 10in	149	Mulatto	Male	Mulatto	[illegible]	Wid.	Yes	Temp	Farm	Lab.	Rog.	July 11.		Wife only relative of Sam	2.	Collin	Larceny	gently	Aug. 2.	July 11. 1890	Discharged.	May 18. 1890

Figure 7.6.2: Example of Convict Record (Texas State Penitentiary 1888a)

A complete collection of biennial reports of the Texas Penitentiary Board (Figure 7.6.3) were found at the Texas State Library and Archives that gave a snapshot of leaseholders' concerns and the camps that the labor forces were sent to, approximately every two years. In addition to biennial reports, approximately three years of original reports from the chief inspector of the Texas Prison System to the Governor were found at the state archives. These rare documents included information about the transition of the labor force on Freeman's Camp, last noted in July 1880, to the new leaseholder name, L. A. Ellis's Camp #2 in August of 1880. This epiphany gave the researchers a way to discern what labor force date ranges and deaths were associated with the cemetery discovered on the JRCTC. Additionally, it seemed logical that camp names would have shifted when a leaseholder sold or bought a piece of land where convict labor was used. The biennial reports

indicated that Ellis had held leases for convict labor in Waller, Brazoria, and Fort Bend counties at different times. To find out if meaningful information relating to labor force names and locations could be found, deed records were researched in all three counties where L. A. Ellis held labor leases.

28 *Report of Penitentiary Board.*

EXHIBIT No. 9.

Locations of convicts on hand October 31, 1888, and number of escapes and deaths from November 1, 1886, to October 31, 1888.

Forces.	Locations.	On hand.	Escaped.	Died.
Ball, Hutchings & Co.	Brazoria county	55	1	2
E. H. Cunningham	Fort Bend county	134	7	11
Darrington	Brazoria county	59	3	.....
L. A. Ellis, Camps Nos. 1 and 2	Fort Bend county	143	15	31
L. A. Ellis, Camp No. 3	Waller county	34	3	7
H. R. Hearne	Robertson county	58	1	9
T. W. House	Fort Bend county	56	1	4
H. L. Lewis, Camps Nos. 1 and 2	Robertson county	120	5	6
W. W. Watts	Robertson county	50	.....	.....
H. K. White	Burleson county	57	2	1
R. J. White	Robertson county	75	2	.....
Ed. Wilson	Robertson county	55	2	1
Rodgers & Hill	Brazos county	133	1	8
Wm. Hearne	Robertson county	130	3	7
Harlem	Fort Bend county	165	4	11
Galveston, Houston and San Antonio, No. 1	Railroad	53	5	1
Galveston, Houston and San Antonio, No. 2	Railroad	57	5	2
Galveston, Houston and San Antonio, No. 3	Railroad	58	4	1
Galveston, Houston and San Antonio, No. 4	Railroad	51	1	.....
Missouri Pacific, No. 1	Railroad	53	2	.....
Missouri Pacific, No. 3	Railroad	50	8	3
Houston and Texas Central, No. 1	Railroad	54	2	3
Houston and Texas Central, No. 2	Railroad	51	.....	2
Huntsville, prison proper	Walker county	602	.....	57
Huntsville prison, outside	Walker county	105	3	.....
Rusk, prison proper	Cherokee county	616	7	42
Rusk prison, outside	Cherokee county	227	19	8
Deaths and escapes en route		.....	4	1
Total number of convicts on hand Oct. 31, 1888		3302		

Figure 7.6.3: Convict Locations, Biennial Report (Texas State Penitentiary 1888b)

The dates of Ellis's land sales and purchases in all three counties corresponded to the changing of the names of the labor forces on his different camps, as documented by the state penitentiary. L. A. Ellis's death; the death of his son, C.G. Ellis; the sale of Sartartia Plantation by their heirs to the Imperial Sugar Company; and Imperial's sale of the land to the State of Texas all resulted in additional names for the camp. Once the timeline of camp names was understood, Ms. Rogers, Dr. Helen Graham, and Reign Clark were able to fully vet the list of deceased inmates that had been identified by Ms. Rogers's study of the prison records. For a complete description of Ellis's land transactions, with references, please see section 7.5.6.

7.6.2 Timeline and Names of the Labor Forces on Bullhead Camp

A lease for convict labor was granted to James Freeman around November 1875. Deaths of workers under this labor lease most likely established the cemetery on the JRCTC (site 41FB355). However, it is possible that the cemetery was already established as a slave cemetery on the Freeman plantation. Under the Freeman Lease, the first death found in state records dates to 13 December 1879. Freeman sold the labor camp and agricultural fields to Littleberry A. Ellis in the summer of 1880. The labor force attributed to Freeman ended in July 1880, and a labor force at L. A. Ellis Camp #2 appeared in Fort Bend County in August 1880. Note that L. A. Ellis Camp #1 was originally in

Brazoria County on the site of the Halcyon Plantation. In 1881, L. A. Ellis bought another plantation from the Dunlavy family, which included a convict labor camp, to the south of Bullhead Camp near the Brazos River. It is likely that this camp became known as L. A. Ellis Camp #3 for a short time. In April of 1885, Ellis sold his Brazoria plantation and ended his labor camp there. At this time, the numbering system shifted, and L. A. Ellis Camp #2 (Bullhead Camp) in Fort Bend County became L. A. Ellis Camp #1 and L. A. Ellis Camp #3 (Brazos Camp) in Fort Bend County became L. A. Ellis Camp #2.

Littleberry A. Ellis died in December 1896 and was succeeded by his son C. G. Ellis. The labor forces in Fort Bend were named "C. G. Ellis" or just "Ellis" on conduct and travel cards until the death of C. G. Ellis in 1906. The labor forces at the Fort Bend County Ellis Camps were discontinued under the Ellis name in the fall of 1907 when Imperial Sugar Co. bought the property, or possibly a few months earlier. In early 1908, the property was sold to the State of Texas for use as a State-run prison farm. The Bullhead Camp was renamed by the penitentiary, the Imperial Prison Farm Camp #1. The cemetery on the JRCTC appeared to have been in use until the end of convict labor in Texas (December 1911). Burials of deceased inmates then continued at the Old Imperial Prison Farm Cemetery established in 1912. To summarize, the labor forces leased on Bullhead Camp were known by the following names for the timeframes listed in Table 7.6.1.

Table 7.6.1: Timeline of Labor Force Names at Bullhead Camp

Labor Force Name at Bullhead Camp	Span of Time Name was Used	
	Begin	End
J. A. Freeman Camp	About Nov 1875	End of July 1880
L. A. Ellis Camp #2	Beginning of August 1880	About April 1885
L. A. Ellis Camp #1	About April 1885	About December 1896
C. G. Ellis Camp #1 or Ellis Camp #1	About December 1896	8 April 1907
*Imperial Sugar Co. purchased.	8 April 1907	17 February 1908
** Imperial Prison Farm Camp #1 (State-run)	17 February 1908	*** 31 December 1911

* It is clear that the Imperial Sugar Co. held leases for labor from the prison before they sold to the state but no deaths were found.
** The Imperial name lasted until the opening of the Central Unit #1 Prison in 1932.
*** End of convict labor era and founding of Old Imperial Prison Farm Cemetery

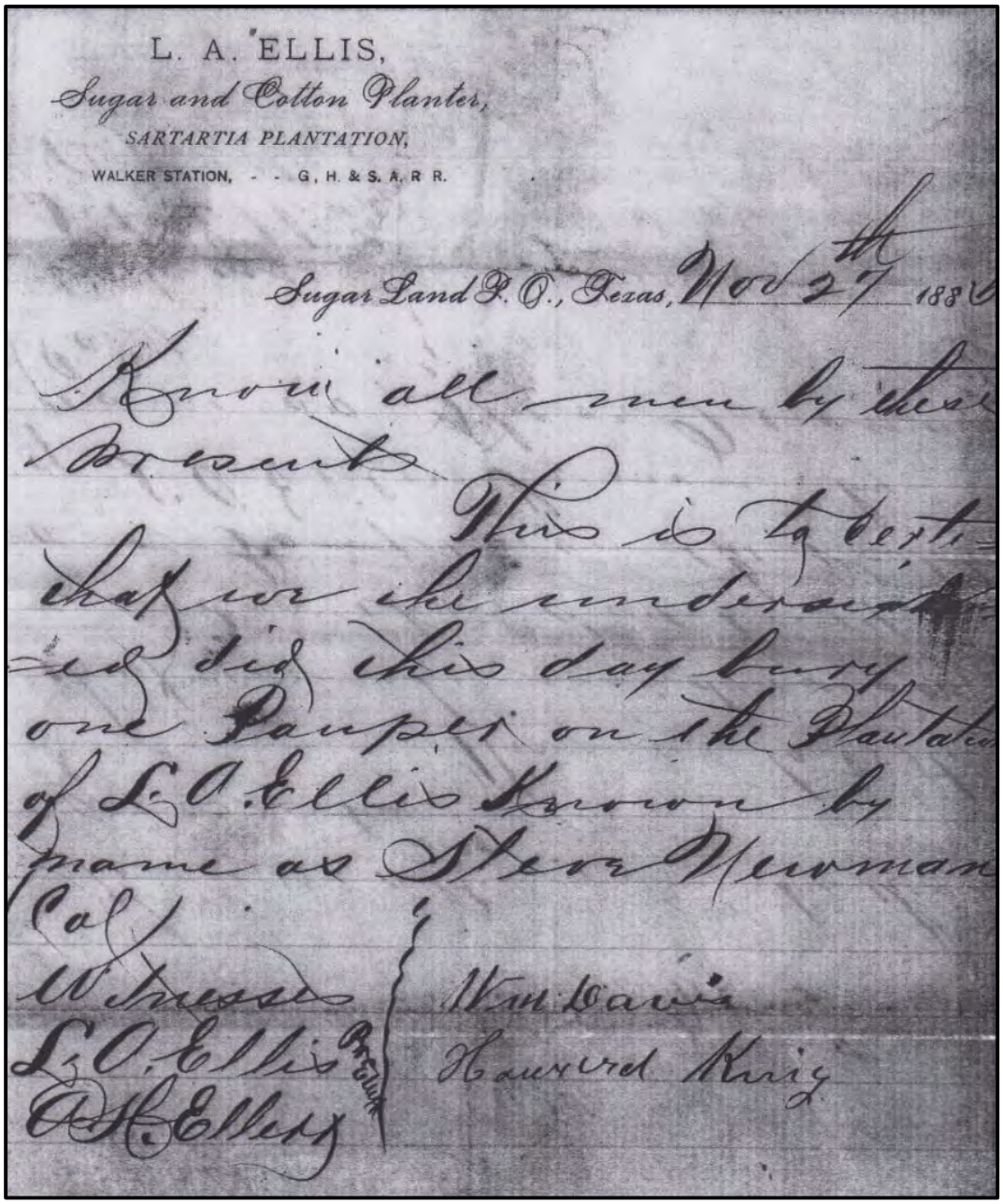
7.6.3 Context and Validity of the Database and its Organization

The data presented in Table 7.6.2 includes physical and locational information for each inmate identified as having died on Bullhead Camp. The data helps create an extremely precise timeline for the use of the place as a forced labor camp and betters our understanding of the brutal treatment and unsanitary conditions that caused the death of the men buried at the Bullhead Camp Cemetery. The database appears to be a roster of at least 72 men who are buried in some of the 95 unmarked graves found at the cemetery. However, short of conducting DNA analysis, connecting a living descendent to the deceased individual, and successfully working back through genealogical records, there is no way to name any individual buried at Bullhead Camp Cemetery with certainty. Regardless, this database presents what is known at this time about 72 men that labored and died on Bullhead Camp between 1879 and 1909.

The database is organized chronologically by date of inmate death. This organization was chosen to help the researcher understand and interpret the changing conditions on the camp throughout its existence and what the men who died there endured over the span of the convict labor era and during the first four years the State of Texas operated a prison camp there.

7.6.4 One Additional Name

Reference to the burial of a pauper was found in an affidavit in the collection of the Fort Bend County Museum Association (Figure 7.6.4). This document was signed on 27 November 1885 by Littleberry A. Ellis and Amanda M. Ellis. The document stated, “This is to certify that we the undersigned did this day bury one pauper on the plantation of L.A. Ellis known by name as Steve Newman (Col[ored]).” Although Steve Newman was not a convict, he was buried on Sartartia, quite possibly at the Bullhead Camp Cemetery. As such, his name has been added to the database of individuals who died on Sartartia and are likely buried at Bullhead Camp Cemetery.



L. A. ELLIS,
Sugar and Cotton Planter,
SARTARTIA PLANTATION,
WALKER STATION, - - G. H. & S. A. R R.

Sugar Land P. O., Texas, Nov 27th 1885

Know all men by these presents

This is to certify that we the undersigned did this day bury one Pauper on the Plantation of L. A. Ellis known by name as Steve Newman Col

Witness
L. A. Ellis
A. H. Ellis

Wm Davis
Haurered Kurig

Figure 7.6.4: Affidavit certifying the burial of Pauper Steve Newman, (Ft. Bend Co. Museum Assn. 1885)

Convict Name	Convict Number	Age at Conviction	Height	Weight (lbs)	Color	Employment (Trade)	Nativity (State/ Country)	Marital Status	Date Convicted	County of Conviction
Pope, Nathan	8202	18	5’ 11”	150	Black	Laborer	Texas	No	29 Nov 1879	Fayette
Norton, Jonathan	7533	27	5’ 5”	155	Black	Laborer	Texas	Yes	25 Apr 1879	Bastrop
Powell, Esau	4940	27	5’ 9”	180	Black	Laborer	Texas	Yes	23 Nov 1875	Fayette
White, William	8222	26	5’ 10”	160	Mulatto	Laborer	Alabama	Yes	14 Dec 1879	Wilson
Stroud, Garrison	5731	23	6’	189	Mulatto	Laborer	Texas	Yes	25 Jan 1877	Robertson
Boone, Harry	9351	20	6’	150	Copper	Laborer	Texas	No	16 April 1881	Washington
Bonner, William	7537	30	5’ 8”	165	Black	Laborer	Alabama	Widower	3 May 1879	Bastrop
Cruse, Michael	9687	18	5’ 6”	153	Mulatto	Laborer	Texas	No	23 Sept 1881	Jefferson
Froch, Sebe	9967	60	5’ 10”	160	Black	Laborer	Gerorgia	Yes	10 Dec 1881	Washington
Cartinas, Manuel	118	25	5’ 2”	130	Mexican	Laborer	Mexico	No	8 Feb 1882	Travis
Brewer, George	9807	39	5’ 10”	180	Black	Teamster	New York	Yes	31 Oct 1881	Cherokee
Fuller, Hardy	9588	28	5’ 4”	122	Black	Laborer	Texas	Yes	15 July 1881	Jackson
Davis, Lewis	1166	24	5’ 7”	152	Black	Laborer	Texas	Yes	3 July 1883	Lavaca
Garcia, James	2241	19	5’ 7”	145	Black	Laborer	Texas	No	20 May 1884	Guadalupe
Newman, Steve										
Odam, Bill	9979	23	5’ 4 1/2”	150	Black	Laborer	Texas	Yes	2 Dec 1881	Anderson
Convict Name	Convict Number	Age at Conviction	Height	Weight (lbs)	Color	Employment (Trade)	Nativity (State/ Country)	Marital Status	Date Convicted	County of Conviction

Reason for Conviction	Sentence Length (Years)	Received Penn.	Last Camp of Residence	Death Date	Age at Death	Death Details	Notes
Burglary	5	11 Dec 1879	Freeman	13 Dec 1879	18	Killed during escape at Freemans	Died after 2 days at Freeman Camp during escape attempt.
Assualt with intent to murder	6	7 May 1879	Freeman	16 Dec 1879	27	Pneumonia	Died after 7 months at Freeman Camp.
Theft	6.5	25 Nov 1875	Freeman	26 Feb 1880	32	Chronic diarrhea	Died after 4 years and 2 months on Freeman Camp. Scar on right knee
Theft of Mare	5	15 Dec 1979	Freeman	20 July 1880	26	Escape attempt Freemans	Died after 7 month on Freeman Camp. Punished July 1880. On 18 Jun 1880 census.
Not stated	7	3 Feb 1877	LAE #2	9 Sept 1881	27	Caught in machinery at camp	Sent to Freeman Camp 19 Nov 1879. Camp name changed to Ellis Camp #2 in August 1880. On 18 Jun 1880 census.
Theft	5	26 Apr 1881	LAE #2	27 Sept 1881	20	Dysentery	Died after 5 months on Ellis Camp #2. Scars right arm and left wrist.
Theft	7	7 May 1879	LAE #2	30 Dec 1881	32	Pneumonia	Sent to Freeman Camp 12 May 1879. Escaped amd recaptured 26 May 1879. Camp name changed to Ellis Camp #2 in August 1880. Escaped from Ellis Camp #2 on 3 Feb 1881 and recaptured on 15 Mar 1881. Punished 18 Apr 1881. On 18 Jun 1880 census as Mat Bonner.
Burglary	2	13 Oct 1881	LAE #2	8 Feb 1882	18	Tree fall	Died after 4 months on Ellis Camp #2. Small scar on right neck.
Theft	5	4 Jan 1882	LAE #2	17 June 1882	60	Result of amputation of a limb	Sent to Ellis Camp #3 outside of Fort Bend County 31 Jan 1882, transferred to Ellis Camp #2 in Fort Bend County. Ellis Camp #3 may have been renamed to Ellis Camp #2 and this inmate may have died at the Brazos River Camp. Escaped and recaptured 20 Apr 1882.
Burglary	2	5 March 1882	LAE #2	5 Oct 1882	25	Congestion of brain and stomach	Died after 1 month on Ellis Camp #2. Punished 22 Jun 1882 at another camp.
Theft of cow	2	28 Nov 1881	LAE #2	18 Nov 1882	40	Complications of illness	Died after one month at Ellis Camp #2.
Theft of yearling	2	30 Jul 1881	LAE #2	29 Dec 1882	28	Menigitis	Died after 17 months on Ellis Camp #2. Scars on right side.
Assualt with intent to murder	5	25 July 1883	LAE #2	26 Oct 1883	24	Congestion of bowells	Died after 3 months at Ellis Camp #2. Punished for laziness 3 Aug 1883. Scar left thigh.
Assualt with intent to murder	5	29 May 1884	LAE #2	28 Oct 1884	19	Unknown	Died after 5 months at Ellis Camp #2. Scars on forehead and right shin.
				27 Nov 1885			Pauper buried at Sartartia by L.A. Ellis and A.M. Ellis
Theft of person	6.5	5 Jan 1882	LAE #2	30 June 1886	27	Pneumonia	Sent to Ellis Camp #2 and name of camp changed to Ellis Camp #1 in 1885. Died after 3 years and 9 months on Ellis Camp #1. Received 15 lashes for disobedience 18 Aug 1883, 15 lashes for indolence Oct 1883, 15 lashes for playing sick Feb 1884, 15 lashes for bad conduct Aug 1884, 9 lashes for indolence Oct 1884. Scars on chest and right arm.
Reason for Conviction	Sentence Length (Years)	Received Penn.	Last Camp of Residence	Death Date	Age at Death	Death Details	Notes

Convict Name	Convict Number	Age at Conviction	Height	Weight (lbs)	Color	Employment (Trade)	Nativity (State/ Country)	Marital Status	Date Convicted	County of Conviction
Chambers, John	9385	26	5’ 5”	139	Black	Laborer	Texas	Yes	10 May 1881	Lee
Darby, Aaron	1702	18		169	Black	Farmer	Texas	No	1 Oct 1883	Caldwell
Brown, Peter	4131	23	5’ 7”	120	Black	Laborer	Texas	No	7 Oct 1886	Washington
Rollins, Newton	6446	22	5’ 8 1/2”	162	Black	Laborer	Tennessee	Yes	11 Nov 1877	Houston
Hagell, Will	4558	22	5’ 9”	165	Dark Mulatto	Laborer	Texas	No	31 May 1887	Wood
Varnes, John	3495	32	5’ 9”	160	Black	Laborer	Texas	Yes	16 Dec 1885	Jackson
Rhodes, Ike	5014	N/A	N/A	N/A	Black	N/A	N/A	N/A	20 Feb 1888	Lavaca
Dixon, Ben	4999	23	5’ 10”	200	Black	Laborer	Texas	No	17 Feb 1888	Trinity
Parker, Gus	5013	N/A	N/A	N/A	Mulatto	Farmer	N/A	No	20 Feb 1888	Lavaca
Williams, Riley	5147	25	5’ 7”	140	Black	Laborer	Texas	No	3 April 1888	Fort Bend
Corey, Henry	5215	29	5’ 8”	156	Mulatto	Laborer	Tennessee	No	25 Apr 1888	Dallas
Franklin, Ben	5235	39	5’ 3”	180	Black	Laborer	Missouri	Yes	25 May 1888	Fayette
Collins, Joseph	5227	24	5’ 9”	157	Mulatto	Laborer	Louisiana	No	21 May1888	Guadalupe
Convict Name	Convict Number	Age at Conviction	Height	Weight (lbs)	Color	Employment (Trade)	Nativity (State/ Country)	Marital Status	Date Convicted	County of Conviction
Granville, Alex	5229	26	5’ 5”	165	Black	Laborer	Alabama	No	22 May 1888	Fayette
Allen, Sam	5341	20	5’ 8”	165	Black	Laborer	Texas	Yes	7 June 1888	De Witt
Shelton, Jim	4634	N/A	N/A	160	Brown	Railroad	Texas	No	7 Dec 1887	Colorado

Reason for Conviction	Sentence Length (Years)	Received Penn.	Last Camp of Residence	Death Date	Age at Death	Death Details	Notes
Theft of mule	7	16 May 1881	LAE #2	28 July 1886	32	Pneumonia	Sent to Ellis Camp #2 and name of camp changed to Ellis Camp #1 in 1885. Died after 5 years and 2 months on Ellis Camp #1. Punished for slighting work July 1883 and received 15 lashes for trying to burn building 28 Apr 1885. Scars on each shin and on left of head.
Theft	7	15 Oct 1883	LAE #2	29 Oct 1886	18	Heart clot	Died after 3 years at Ellis Camp #2. Punished for indolence 1 Apr 1884.
Burglary and theft of property over $20 value	2 + 2=4	25 Oct 1886	LAE #1	17 Dec 1886	23	Pulmonary congestion	Died 47 days after arriving at Ellis Camp #1, left eye entirely out and lid closed over it
Manslaughter	5	11 Dec 1877	LAE #1	5 Jan 1887	32	Pneumonia	Died after 17 months on Ellis Camp #1. Scars on forehead and back.
Assualt with intent to murder	5	3 June 1887	LAE #1	20 Jan 1888	22	Pneumonia	Died 4 monthss after arriving at Ellis Camp #1; scars over right eye, right leg, left arm, right hand, and on head
Horse theft	7	14 Jan 1886	LAE #1	23 Jan 1888	34	Pneumonia	First sent to Ellis Camp #3 on 14 Jan 1886 which may have been in Fort Bend County at that time. Moved to Ellis Camp #1 on 3 Apr 1887. Died after 9 months on Ellis Camp #1. Sacrs on left leg just above knee and on left arm just above wrist.
Theft of cattle	2	2 Mar 1888	LAE #1	5 Mar 1888	unk	Heart Clot	Died 3 days after arriving at Ellis Camp #1 before description was taken.
Murder 2nd degree	5	23 Feb 1888	LAE #1	28 Mar 1888	23	Pernicious Fever	Died 32 days after arriving at Ellis Camp #1; scars on forehead and over right eye; shot scar between eyes
Swindling of property over $20 value	2	2 Mar 1888	LAE #1	24 May 1888	unk	Congestive fever	Died 22 days after arriving at Ellis Camp #1; scars on left little finger and both calves
Burglary and theft of money over $20	2 + 2=4	21 April 1888	LAE #1	26 May 1888	25	Congestion	Died after 1 month at Ellis Camp #1. Round scar on right jaw, scar on left cheek, scar on stomach.
Robbery	2	9 June 1888	LAE #1	27 June 1888	29	Killed by Guard M. D. Jarnett while attempting to escape	Died after 10 days on Ellis Camp #1. Scars on left shoulder and back
Assault with intent to murder	5	12 June 1888	LAE #1	26 July 1888	39	Congestive fever	Died after 2 months on Ellis Camp #1. Listed in convict record under alternate names and convict numbers Frank Farquar #1233 and Ben Franklin #5638. Scars on left jaw, left side of head, right shoulder, right shoulder blade, right hip. Toes off both feet.
Aiding felons to escape from an officer	7	4 June 1888	LAE #1	10 July 1888	24	Killed by Guard M. D. Jarnett while attempting to escape	Died after 1 month on Ellis Camp #1. Scars on left cheek and over right eye.
Reason for Conviction	Sentence Length (Years)	Received Penn.	Last Camp of Residence	Death Date	Age at Death	Death Details	Notes
Assault with intent to murder	2	12 June 1888	LAE #1	7 Aug 1888	26	Typho malarial fever	Died after 2 months on Ellis Camp #1. Scars on backbone and on right ankle near instep.
Theft	3	9 Aug 1888	LAE #1	3 Sept 1888	20	Epileptic convulsion	Died after 1 month on Ellis Camp #1. Burn scar on right arm.
Burglary	2	29 July 1889	LAE #1	31 Dec 1888	unk	Dropsy	Was at all three of Ellis's Fort Bend camps. Died two days after arriving at Ellis Camp #1.

Convict Name	Convict Number	Age at Conviction	Height	Weight (lbs)	Color	Employment (Trade)	Nativity (State/ Country)	Marital Status	Date Convicted	County of Conviction
Jessie, George	5840	24	5’ 8”	158	Black	Farmer	Texas	No	26 June 1888	Grimes
Davis, Phil	5863	26	5’ 6”	163	Black	Cook	Canada	No	24 May 1889	El Paso
Davis, John	5360	25	5’ 10”	165	Black	Laborer	Texas	Yes	27 Sept 1888	Colorado
Gray, Morris	5340	40	5’ 6”	145	Black	Laborer	Mississippi	Yes	30 June 1888	De Witt
Nevils, Jerry	5356	28	5’ 9”	173	Copper Black	Laborer	Texas	Yes	17 Sept 1888	Walker
Mitchell, Josh	5622	23	5’ 10”	174	Black	Farmer	Texas	No	16 Feb 1889	Lavaca
Whitfield, Dempsy	5430	19	5’ 7”	160	Black	Laborer	Georgia	Yes	2 Nov 1888	Washington
Terry, Henry	5878	25	5’8”	165	Black	Cook	Texas	No	26 July 1889	Galveston
Williams, John	5913	25	5’ 7”	165	Black	Farmer	Texas	No	12 Sept 1889	Cass
Baker, George	6138	25	5’ 6”	145	Black	Laborer	Texas	No	6 Jan 1890	Austin
Convict Name	Convict Number	Age at Conviction	Height	Weight (lbs)	Color	Employment (Trade)	Nativity (State/ Country)	Marital Status	Date Convicted	County of Conviction
Thomas, Jeff	5928	24	5’ 5”	162	Black	Farmer	Texas	Widower	3 Oct 1889	Harrison
Cole, Coleman	6355	28	5’ 6”	160	Copper	Farmer	Texas	Yes	21 May 1890	Fayette
Scott, West	6218	18	5’ 1”	147	Dark Mulatto	Farmer	Texas	No	5 Mar 1890	Smith

Reason for Conviction	Sentence Length (Years)	Received Penn.	Last Camp of Residence	Death Date	Age at Death	Death Details	Notes
Burglary and assault with intent to murder	2 + 2=4	7 July 1889	LAE #1	4 Sept 1889	25	Heart disease	Died after 2 month at Ellis Camp #1. Scars on right hip, nail off on left index finger, several scars outside of left knee, long scar right side of head.
Burglary and theft of property over $20 value	2 + 2=4	22 July 1889	LAE #1	12 Sept 1889	26	Paralysis of heart	Died after 2 month at Ellis Camp #1. Right thumb off at first joint, Scars on back of left hand, on 3rd finger right hand, on right side of neck, on upper lip.
Burglary	2	5 Oct 1888	LAE #1	16 July 1889	26	Congestion of brain	Died after 9 months at Ellis Camp #1. Received 11 lashes for indolence 18 Oct 1888, 9 lashes for indolence 15 Apr 1889, 9 lashes for med lesaure(sp?) 30 May 1889. Scar over left eye, little finger stiff and crooked left hand, scar on left leg, between knees and ?? caused from burn.
Assualt with intent to murder	2	9 Aug 1888	LAE #1	18 July 1889	40	Sun stroke	Died after 11 months on Ellis Camp #1. Received 9 lashes for indolence 9 Sep 1888, 11 lashes for laziness 11 Feb 1889, 11 lashes for laziness 30 May 1889. Scar on left shin.
Cattle theft	5	17 Sept 1888	LAE #1	21 July 1889	29	Sun stroke	Died after 9 months at Ellis Camp #1. Received 11 lashes for indolence 15 Nov 1888, 11 lashes for indolence 8 Feb 1889, 11 lashes for indolence 26 Mar 1889, 11 lashes for indolence 30 May 1889, 17 lashes for indolence, 28 Jun 1889. Gunshot scar back part of left arm near shoulder, gunshot scar left breast, gunshot scar right forearm.
Manslaughter	2	13 Mar 1889	LAE #1	21 July 1889	23	Sun stroke	Died after 4 months at Ellis Camp #1. Received 13 lashes for indolence 29 Apr 1889, 11 lashes for indolence 25 Jun 1889. Long scar back of right leg, pistol shot wound on right hip.
Burglary	2	2 Nov 1888	LAE #1	24 July 1889	20	Sun stroke	Died after 8 months on Ellis Camp #1. Received 11 lashes for indolence 26 Mar 1889, 11 lashes for indolence 14 April 1889, 11 lashes for indolence 25 Jun 1889. Shot scar on right hand, right hand crippled.
Theft	2	1 Aug 1889	LAE #1	28 Aug 1889	25	Sun stroke	Died after 27 days at Ellis Camp #1. Small scar on left thumb and no nail on right thumb.
Burglary	2	29 Sept 1889	Ellis #1 & 2	13 Nov 1889	25	Internal hemorrhage and dropsy	May have died at Ellis Camp #2 (South camp). Died after 1 month at Ellis Camps. Received 13 lashes for laziness. Scars on left cheekbone and right knee.
Buglary	2	21 Jan 1890	LAE #1	29 Jan 1890	26	Killed during escape attempt	Died after 8 days at Ellis Camp #1. Shot while trying to escape and was hit in side, one in back, one in hip.
Reason for Conviction	Sentence Length (Years)	Received Penn.	Last Camp of Residence	Death Date	Age at Death	Death Details	Notes
Theft of property over $20 value	2	9 Oct 1889	Ellis #1 & 2	25 May 1890	25	Abcess of liver & dropsy	May have died at Ellis Camp #2 (South camp). Died after 6 months at Ellis Camps. Received 12 lashes for indolence. Disfigured leg?, Scars left foot, right shin.
Robbery	5	8 June 1890	LAE #1	16 June 1890	28	Congestive convultions	Died after 8 days at Ellis Camp #1. Cut scar on top of head.
Theft	2	25 Mar 1890	LAE #1	21 July 1890	18	Killed during escape attempt	Died after 3 months at Ellis Camp #1. Killed while trying to escape by Guard James Clark and hit with 10 (buck)shot. Scars on right temple, right groin, left sholderblade.

Convict Name	Convict Number	Age at Conviction	Height	Weight (lbs)	Color	Employment (Trade)	Nativity (State/ Country)	Marital Status	Date Convicted	County of Conviction
Stephens, Wm.	6139	23	5’ 7”	190	Brown Negro	Farmer	Texas	Yes	6 Jan 1890	Austin
Nichols, Wm.	5891	24	5’ 6”	162	Black	Blacksmith & Cook	Kentucky	No	1 Aug 1889	Webb
Smith, Davy	5146	21	5’ 7”	137	Black	Laborer	Texas	Yes	3 April 1888	Fort Bend
Anderson, Tom	6447	22	5’ 6”	144	Black	Farmer	Texas	Yes	11 Aug 1890	Rusk
Boon, Auz.	6541	26	6’ 4”	170	Black	Laborer	Texas	No	22 Oct 1890	Panola
Adams, Loyd	7139	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Guadalupe
Williams, Will	8301	21	5’ 11”	152	Mulatto	Farmer	Texas	No	21 April 1892	Bandera
Lee, Sam	8603	22	5’ 8”	155	Black	Hostler	Iowa	No	26 Oct 1892	Grayson
Crawford, William	7999	20	N/A	180	Black	Cook	Texas	Yes	31 Mar 1892	Washington
O’Dair, Wafer	9356	23	6’ 2”	178	Dark Mullato	Laborer	Texas	No	10 May 1893	Milam
Nash, William	8035	16	5’ 4”	151	Black	Cook	Georgia	No	19 Apr 1892	McLennan
Simons, Hence	7178	25	5’ 9”	142	Black	Mill Man	Texas	Yes	7 Aug 1891	Rusk
Convict Name	Convict Number	Age at Conviction	Height	Weight (lbs)	Color	Employment (Trade)	Nativity (State/ Country)	Marital Status	Date Convicted	County of Conviction
Baldwin, Mack	6273	20	5’ 8”	160	Copper	Laborer	Texas	No	21 Mar 1890	Liberty

Reason for Conviction	Sentence Length (Years)	Received Penn.	Last Camp of Residence	Death Date	Age at Death	Death Details	Notes
Horse theft	5	21 Jan 1890	LAE #1	31 Aug 1890	23	Dropsy	Died after 6 months at Ellis Camp #1. Escaped and was recaptured 29 Jan 1890. Scar on left jaw and over left eye.
Theft of property over $20 value and burglary	3 + 2=5	27 Aug 1889	Ellis #1 & 2	4 Sept 1890	25	Congestive chill	May have died at Ellis Camp #2 (South camp). Died after 11 months at Ellis Camps. Received 12 lashes for indolence. Scars on forehead, shot wound right forarm, knife wound left hand and neck.
Burglary and theft of money over $20	2 + 2=4	21 April 1888	LAE #1	16 Nov 1890	23	Run over by tram car	Died after 19 months on Ellis Camp #1. Cut scar 1.5 inches long under chin.
Assault with intent to murder	2	22 Aug 1890	LAE #1	30 Mar 1891	23	Dropsy	Died after 7 months on Ellis Camp #1. Scars on left neck, left knee, back of head, right and left rump. First finger left hand disfigured.
Burglary	5 + 2=7	9 Nov 1890	LAE	20 Jun 1891	27	Sun stroke	Ellis Camp number not noted. Could have died at any of three camps, Scars left temple and back of head
Assault with intent to murder	5	19 July 1891	LAE	29 July 1891	unk	Sun stroke	Ellis Camp number not noted. Could have died at any of three camps. Died after 10 days at the Ellis Camps before description was taken.
Theft of a horse	5	2 July 1892	LAE	17 Jan 1893	22	Pleurisy	Ellis Camp number not noted. Could have died at any of three camps. Died after less than 6 months on Ellis Camps. Cut scar on forehead, burn scar on right side neck, cut scar right knee, scar over right eye.
Burglary and theft	3 + 3=6	2 Nov 1892	LAE	3 Mar 1893	22	Escape attempt	Ellis Camp number not noted. Could have died at any of three camps. Died after 4 month at Ellis Camps. Scars on back right wrist and over right eye.
Forgery	2	21 Apr 1892	LAE	23 June 1893	21	Pistol shot while escaping	Ellis Camp number not noted. Could have died at any of three camps,. Died after 1 month at Ellis Camps. Received 10 lashes for insolence. Scar from barbed wire side of right calf.
Rape	5	27 May 1893	LAE	8 July 1893	23	Sun stroke	Ellis Camp number not noted. Could have died at any of three camps. Died after less than 1 month on the Ellis Camps. Boil scar back of right hand, teeth very uneven, knife scar on back, figure of man and letters tattooed on forarms.
Theft of property over $20 value	4	27 Apr 1892	LAE	3 Sept 1893	16	Congestion of brain	Ellis Camp number not noted. Could have died at any of three camps. Died after 8 months on Ellis Camps. Scars on forehead, left temple, right wrist, small of back. Fourth finger each hand disfigured.
Horse theft	8 + 7=15	12 Aug 1891	LAE	6 Sept 1893	27	Consumption	Ellis Camp number not noted. Could have died at any of three camps. Died after 25 months at Ellis Camps. Escaped and recaptured 29 Aug 1892. Scars on forhead, both knees, both shins, left arm.
Reason for Conviction	Sentence Length (Years)	Received Penn.	Last Camp of Residence	Death Date	Age at Death	Death Details	Notes
Assault with intent to murder	5	13 Apr 1890	LAE #1	4 Mar 1894	24	Escape attempt	Died after nearly 4 years at Ellis Camp #1. Killed while trying to escape. Round scar right kneecap, scar on right elbow

Convict Name	Convict Number	Age at Conviction	Height	Weight (lbs)	Color	Employment (Trade)	Nativity (State/ Country)	Marital Status	Date Convicted	County of Conviction
Glass, Jim	11346	21	5’ 7”	181	Mulatto	Laborer	Texas	No	19 Oct 1894	Smith
Jackson, Ed	15725	20	5’ 9”	165	Black	Laborer	Texas	No	11 Oct 1897	Burnet
Tollison, Allie	15724	25	5’ 9”	160	Black	Laborer	Texas	Yes	27 Oct 1987	Lavaca
Blacksom, John	6798	18	5’ 10”	150	Black	Hotel Waiter	Louisiana	No	17 Mar 1891	Brazos
Adams, Abe	16540	25	5’ 9”	154	Brown	Laborer	Texas	No	20 Apr 1898	Lavaca
Miller, Joe	15762	18	5”7”	130	Black	Laborer	Texas	No	5 Nov 1899	Bexar
Berman, Joe	15738	38	5’ 10”	180	Black	Laborer	Texas	Yes	9 Oct 1897	Bexar
Mitchell, Jack	19734	33	5’ 5”	150	Dark Brown	Railroad Laborer	Texas	Yes	25 Oct 1900	Harris
Miller, Dump	20288	20	5’ 9”	165	Mulatto Black	Laborer	Texas	No	10 Apr 1901	Bexar
Robinson, Arthur	22134	20	5’ 10”	160	Black	Laborer	Texas	No	25 Oct 1902	McLennan
Walker, Henry	23280	23	5’ 10 1/2”	170	Dark Brown	Laborer	Texas	No	26 June1903	Bastrop
Convict Name	Convict Number	Age at Conviction	Height	Weight (lbs)	Color	Employment (Trade)	Nativity (State/ Country)	Marital Status	Date Convicted	County of Conviction
Jackson, Andy	22151	53	5’ 7”	170	Dark Brown	Laborer	Mississippi	Yes	20 Oct 1902	Panola

Reason for Conviction	Sentence Length (Years)	Received Penn.	Last Camp of Residence	Death Date	Age at Death	Death Details	Notes
Murder 2nd degree	10	4 Oct 1894	LAE #1	9 July 1895	22	Pernicicious malaria	Died after 9 months on Ellis Camp #1. Escaped and recapchured 23 Jan 1895, received 20 lashes for escaping 28 Feb 1895. Ledger describes 20 lashes administered on 13 May 1895 for independence and laziness but it was crossed out. No. 10 shoe.
Theft of a horse	2	24 Nov 1897	CG Ellis 1	30 Aug 1898	20	Malaria	Died after 8 months at Ellis Camp #1, Scar right groin and left shin, No. 10 shoes
Fraudulently disposing of a mortgaged property	2	2 Nov 1897	CG Ellis 1	8 Feb 1899	26	Pneumonia	Died after 13 months at Ellis Camp #1; Long scar left back; scars on upper lip, back of head, left elbow, right thigh, right big toe; No. 10 shoes
Burglary	2+2+2+2+2+2+2 = 14	25 Mar 1891	CGE #1	10 July 1899	25	Drowned	Died after 19 months at Ellis Camp #1. Received 9 lashes for Insolence 29 Jul 1893, 10 lashes for laziness and cutting cane badly 30 Nov 1893, 13 lashes for impudence 23 June 1896, and 20 lashes for refusal to work 9 Nov 1896. Scars left arm, right knee, right thigh, left shin, left foot near toes. No. 9 shoes.
Theft of a horse	2	27 Apr 1898	CGE #1	10 July 1899	26	Drowned	Died after 15 months on Ellis Camp #1. Burn scars all over rump, 1 1/2" shot scar center of breast, two short scars below elbow, scar on left shoulder. No. 8 shoes. Ex-convict, previous #6451.
Buglary	2	11 Nov 1897	CG Ellis 1	29 July 1899	22	Malaria	Died after 19 months at Ellis Camp #1, shot scar back left hand, two scars right hand, cut on right calf, No. 7 shoes
26 cases of burglary and theft	2+2+2+2+2+2 = 12	9 Nov 1897	CG Ellis 1	21 Jun 1900	40	Malaria	Long cut on right side, cuts on back of left hand and inside left knee, No. 12 shoes.
Theft of a horse	4	01 Nov 1900	CG Ellis 1	12 Nov 1900	33	Pernicious Malarial Fever	Died after 11 days on Ellis Camp #1. Scar on head, shot scar on left leg, cut scar right arm, shot scar right thigh, scar left shoulder, scar right shoulder. No. 8 shoes.
Burglary with intent to commit theft	2	24 Apr 1901	CG Ellis 1	11 July 1901	20	Pernicious Malarial Fever	Died after less than 3 months on Ellis Camp #1. Scar on back muscle of left arm. Scar above right nipple?. No. 9 shoes
Burglary	3+2+3+2=10	29 Oct 1902	LAE #1	9 Dec 1902	20	Killed by Dog Sgt J. H. Veal while attempting to escape	Died after less than 2 months on Ellis Camp #1. Also used alias Aurther Johnson. Scars over left eye, left arm, back.
Attempt to commit Arson	5	13 July 1903	Ellis #1	11 Sep 1905	25	"Struck by lightning at 11:40 AM and instantly killed"	Died after 14 months on Ellis Camp #1. Scar left side of head near eye, ong cut scar over left eye, 2 large scars back of head, small pox scars all over body, cut scar below right elbow, 2 scars left shin, one upper front tooth out. Ex-convict #16897 under alias Henry Quigley. No. 9 shoes.
Reason for Conviction	Sentence Length (Years)	Received Penn.	Last Camp of Residence	Death Date	Age at Death	Death Details	Notes
Aussault with intent to commit murder	2	6 Nov 1902	Ellis #1	16 Nov 1903	54	Pernicious Malaria	Died after 12 months on Ellis Camp #1. Long cut scar on forehead, scar top right shouler, long cut scar on breast, 2 scars on right hip, scar on right shin. No. 9 shoes.

Convict Name	Convict Number	Age at Conviction	Height	Weight (lbs)	Color	Employment (Trade)	Nativity (State/ Country)	Marital Status	Date Convicted	County of Conviction
Owens, Travis	25975	25	5’ 8”	150	Brown	Laborer	Texas	Yes	25 Oct 1905	Lamar
Brown, Robert	23868	18	5’ 4”	155	Brown	Cook	Georgia	No	13 Jan 1904	Harris
*Newsom, Isreal First burial at Old Imperial Prison Farm Cemetery)	31951	37	5’ 9”	145	Dark Brown	Laborer	Texas	Widower	31 May 1911	Burleson
*Davis, Alfred (Second burial at Old Imperial Prison Farm Cemetery)	20948	25	5’ 10”	166	Dark Brown	Laborer	Texas	No	7-Nov-01	Houston

Reason for Conviction	Sentence Length (Years)	Received Penn.	Last Camp of Residence	Death Date	Age at Death	Death Details	Notes
Sodomy	5	8 Dec 1905	Ellis 1	13 Dec 1905	25	Pneumonia	Died after 5 days on Ellis Camp #1. Was sick on arrival from prison and was never put to work.
Burglary	5 + 3 =8	2 Feb 1904	Imperial	26 Jul 1909	23	Sunstroke	Served time on numerous camps and at Huntsville. Died after 17 months on Imperial Farm. Received 20 licks for laziness on 25 Nov 1904, 20 licks for laziness 18 June 1905, 25 licks for impudence to guard on 20 July 1905, 25 licks for laziness on 16 June 1907, 25 licks for disobedience on 15 June 1908, 25 licks for laziness on 23 Jun 1909. Small scar right side of neck, 1/2" scar right cheekbone, small burn scar on back of left hand. Dim scars between right and left knees and ankles. No. 7 shoes.
Perjury	2	6 Jun 1911	Imperial	10 Feb 1912	38	Heart Failure	*First burial at the Old Imperial Prison Farm Cemetery, died 10 days after the end of the Convict Labor Era. This burial marks the end of use of the Bullhead Camp Cemetery. Davis was logged as ex-convict #14312 under alias Alford Davis. He served time at Huntsville Prison, on the railroads, Harlem Farm, Cunningham Camp #5, Imperial Sugar Company (1911), and Imperial State Farm where he spent the last nine days of his life.
Rape	25	15-Nov-01	Imperial	7-Mar-12	37	Pneumonia	*Second burial at the Old Imperial Prison Farm Cemetery, died 67 days after the end of the Convict Labor Era. Davis was logged as ex-convict #14312 under alias Alford Davis. He served time at Huntsville Prison, Imperial Sugar Company (1911), and Imperial State Farm where he spent the last month of his life.

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7.7 Among the Dead: The Lives of Three of the Men Who Died at Bullhead Camp

7.7.1 Seaborn Froch

Sebe Froche, Convict #9967, was 60 years old when he was convicted in Washington County of theft on 10 December 1881. A Black laborer from Georgia, Froche was 5'10" and weighed 160 pounds. He received a five-year sentence and was sent to the penitentiary on 4 January 1882. He escaped and was recaptured on 20 April 1882. Sometime between 20 April 1882 and his death on 17 June 1882, his leg was amputated. Sebe Froche died at Ellis Camp #2 from the "effects of a leg amputation." Froche was married at the time of his conviction and death (Ancestry, 2012a). The profile and circumstantial evidence below are based on research conducted by Nancy Alemany.

Sebe was born circa 1822 in the state of Georgia. His birth name was probably "Seaborn", a very popular name in Georgia at the time of his birth. "Sebe" was his nickname.

His Texas voting record from 1867 indicates that he had lived in Texas for seven years, lived in Fayette County for four years, and lived in his home in Round Rock, Texas, for three years, which made his arrival in Texas circa 1860 (Ancestry, 2011). Texas was a slave state at the time and king cotton was and still is grown in Fayette County. How Sebe came to be in Fayette County in 1860 is unknown. It is possible he was purchased by one of the numerous cotton growers in Fayette County to work in the fields. Coming from Georgia, where cotton was also king, it would be a job he would be familiar with.

Although June 19, 1865 (Juneteenth) was when the slaves on Galveston Island learned that they were free citizens, it appears Sebe may have gained his freedom from slavery circa 1864, not long after the soldiers from Fayette County returned from the Civil War. Sebe's period in Round Rock, Texas, begins circa 1864. The last name, Frosch, is German in origin and is unheard of in early 1820's Georgia. Perhaps to give himself a fresh start, Sebe took the name of one of the German farmers in the Fayette County area (one that didn't have slaves) like Henry S. Frosch and his son Henry Frosch. It is lost to history what Seaborn's surname was when he was born in Georgia and subsequently brought to Texas.

In 1866, Sebe married Sarah Ann McClatchy, a woman almost 20 years his junior, who was born around 1841 in Mississippi. If Sebe took an alternate last name it is possible his wife Sara Ann did too. A Mr. A.A. McClatchy owned no real taxable property, but the 1861 tax record shows he owned personal property of ten slaves valued at $8,000 along with nine horses and ten head of cattle. Perhaps, Sarah Ann was among those ten slaves (FamilySearch, 2014). Mr. McClatchy was a Captain in the war and may have released his slaves from slavery upon his return.

In 1864, Sebe's first daughter, Caroline was born. Sebe and Sarah Ann had three more children: Melissa was born circa 1869, Louise was born in 1870, Robert followed in 1875. Record keeping was not a high priority in Fayette County until 1907, so no official birth or marriage records for the Frosch family exists with the exception of Seaborn and Sarah's marriage in 1866. The family group is listed in the 1880 Census (Census Place, 1880c).

The Civil War and its aftermath brought profound changes to Fayette County, Texas. Although it made only a small material contribution to the war effort, the lack of markets and wild fluctuations in Confederate currency caused hardships for many. The end of the war brought wrenching changes in the economy. For many White residents, the abolition of slavery meant devastating economic loss. Before the war, slaves had constituted more than a third of all taxable property in the county, and their loss coupled with a sharp decline in property values caused a profound disruption for most planters.

The county's African Americans fared no better. Although most of the county's Black residents remained, many left the farms owned by their former masters to seek better working conditions. For the vast majority, the change brought only marginal improvement in their living and working conditions; most ended up working on the land on shares, receiving one-third or one-half of the crop for their labors.

The economic conditions of Fayette County, Texas, must have made it challenging for Sebe to adequately take care of his growing family. The Texas County Tax Rolls indicate Sebe paid taxes on his property twice: once in 1871 and again in 1878 (Ancestry, 2014b). Tough economic times might have accounted for the five-year sentence Sebe received in 1881 for theft of property in neighboring Washington County near his home in Round Rock, Texas.

No information was discovered in the records after Sebe's death. The records are silent. In the 1900 Census (Census Place, 2004), a Robert Frosch, a single Black man, living in Elgin, Bastrop County, Texas, with his sister Lizzie Townsend and her daughter Nettie Townsend seem to be a possible match to brother and sister Robert and Melissa Frosch, born circa 1870 and 1875 in Fayette County, respectively. It is hoped that someone who has family knowledge will see this account and can link their family to the past.

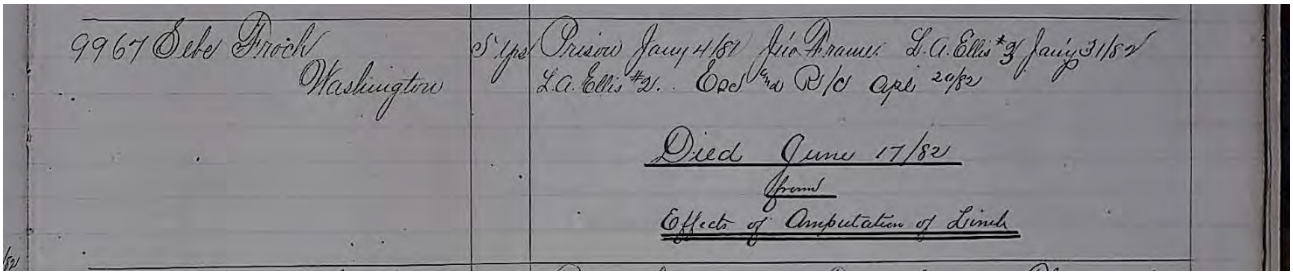
9967 Sebe Froch
Washington
5 yrs Prison Jany 4/81 Sic Prams L.A. Ellis #3 Jany 31/82
L.A. Ellis #2. Exd Vd R/C Apl 20/82
Died June 17/82
from
Effects of Amputation of Limb

Figure 7.7.1: The Inmate Conduct Card of Sebe Froch, Texas State Penitentiary.

7.7.2 Esau Powell

On 23 November 1875, Esau Powell, Convict #4940, was 27 years old when he was convicted of theft in Fayette County, Texas. He was sentenced to 6.5 years in prison. A Black laborer from Texas, Powell was 5'9", weighed 180 pounds, and had a scar on his right knee. He was married at the time of his conviction. He was received at the J.D. Freeman camp on 25 November 1875 and died at the age of 32 on 26 July 1880. His cause of death is listed as chronic diarrhea. The profile and circumstantial evidence below are based on research conducted by Melrita Taylor with the Afro-American Historical and Genealogical Society, Willie Lee Gay Chapter (H-Town Chapter).

Esau Powell was born circa 1850 in Riceboro, Liberty County, Georgia. In 1870, Powell was 20 years old and living in the household of Cassius and Nora Powell. His occupation was farm laborer. He may have come to Texas looking for work. He married Mary Dockery, in Washington County, Texas on 3 August 1871. Mary Dockery was born in Tennessee circa 1856 and was living in the household of Joseph (Joe) and Margrat (Margeth) Dockery (Docky) in Burton, Washington County, Texas in 1870. Esau and Mary Powell, had at least two children, John and Margaret Powell. Esau Powell was on the other children's death certificates as their father.

Court documents found in Fayette County, Texas for Esau Powell (#4940) contained the complaint, a copy of Indictment No. 1996, a warrant, testimonies of witnesses, and the verdict. The indictment and warrant were issued 11 October 1875. Powell was charged with theft of a gelding horse valued at $60 that belonged to Riley Townsend. He was arrested and jailed in Washington, Texas, on 9 November 1875. On 18 November 1875 (23 November according to his intake form), he was found guilty and sentenced to the state penitentiary in Huntsville, Texas, for six years and six months. The verdict listed his occupation as laborer. He was about 25 years of age (27 years old according to intake form) when he was sentenced. His sentence began 25 November 1875 in Huntsville, Texas. He died in prison in the J. D. Freeman's unit, 26 February 1880 of chronic diarrhea.

In 1880, Mary Powell was living in Round Top, Fayette County, Texas. On the 1880 Round Top, Fayette County Texas census schedule, she was married, but no husband was named; at this time, Esau Powell was in prison. Mary's children were John Powel, age 8, Margreth [Margaret] Powel, age 6 and Olivia Powel, age 3. The children's parents' birthplaces are listed as Georgia for the father and Tennessee for the mother. Mary Powell was not located again until 1910, when she was a widow at age 52 living with her children, Livia, age 29; Willie, age 28; and Earnest, age 25 in Justice Precinct 1, Fayette County, Texas. On this census schedule, both parents of Mary's children were born in Tennessee. Mary Powell died 29 Mar 1946 in La Grange, Fayette County, Texas. Her parents were listed as Joe Docky and Margeth Casus.

These were the children of Esau Powell and Mary (Dockery) Powell per their death certificates:

7.7.2.1 John Powell (child)

John Powell			Wife: Sabre Vicent	
	Date	Place	Date	Place
Born	9 August 1872 (1880 Census), 9 August 1880 (Death Certificate)			
Married	27 June 1882	Fayette Co., Texas		
Died	30 June 1952	Rutersville, Fayette Co., Texas	14 September 1952	Rutersville, Fayette Co., Texas
Children				
Leroy	Mastella	Mamie or Emma	Juliann	Johnny
Earnest	Rachelli	Alvina		

Juliann may have died in 1910; she is not listed on the Fayette County 1910 census as a member of the household of John Powell.

7.7.2.2 Margaret Powell (child)

Margaret Powell			Husband: Asberry Lee	
	Date	Place	Date	Place
Born	28 July 1874			
Married	13 January 1897	Fayette County		
Died	September 1967	Los Angeles, Los Angeles County, California	7 May 1952 (age 78)	Houston, Harris Co., Texas
Children				
Arthur	Ollie	Mabel	Alberta	

7.7.2.3 Olivia Powell (child)

Olivia Powell		
	Date	Place
Born	26 August 1877 (1880 Census)	
Married		
Died	7-Dec-70	Houston, Harris, Texas

7.7.2.4 Willie Powell (child)

Willie Powell		
	Date	Place
Born	11 June 1888	Texas
Married		
Died	2 July 1960	La Grange, Fayette, Texas

7.7.2.5 Earnest Powell (child)

Ernest Powell		
	Date	Place
Born	5 September 1891	Fayette County, Texas
Married		
Died	18 April 1943	

Given the timeframe when Esau was sentenced, John and Margaret Powell were most likely his only children, even though Esau is listed as the father on all of the children's birth certificates. Mary Powell and her children are interred in Richter Hill African American Cemetery in Round Top, Fayette County, Texas.

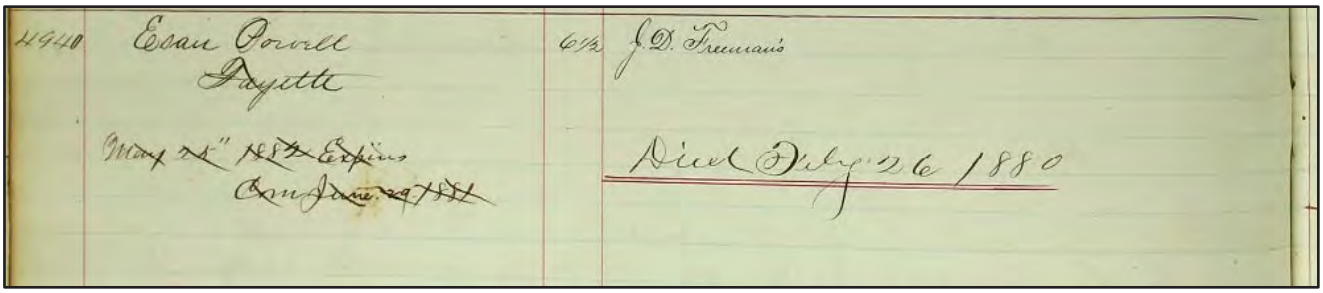

Figure 7.7.2: The Inmate Conduct Card of Esau Powell, Texas State Penitentiary.

7.7.3 Ben Franklin, Also Known as Frank Farquar

On 25 May 1888, Ben Franklin, Convict #5235, was 39 years old when he was convicted in Fayette County Texas of assault with intent to murder. An uneducated Black laborer from Missouri, Franklin was 5'3" (5'6" is recorded in other records) and weighed 180 pounds. His habit of life was listed as intemperate and he smoked tobacco. He had scars on his left jaw, a scar on the back of his head, a scar on his right shoulder, a scar below his right shoulder blade, three scars on his right hip, and toes missing from both of his feet. When Franklin was convicted, he was married with children and his parents were alive; his family lived in La Grange, Fayette County, Texas. Franklin received a five-year sentence and was sent to L. A. Ellis Camp #1 on 12 June 1888 (Cause No. 2936). Ben Franklin died on 26 July 1888, six weeks after arriving at Ellis Camp #1; his cause of death is listed as congestive fever (Ancestry, 2012b). The profile and circumstantial evidence below are based on research conducted by Jennifer Stock with the Afro-American Historical and Genealogical Society, Willie Lee Gay Chapter (H-Town Chapter) and Helen Graham with Humanities Projects, LLC.

Benjamin Franklin was born about 1849 in Missouri. His family moved to Texas around 1866. The reason(s) for his family's migration is undetermined, but at the time of his birth, there was a mass exodus from Missouri as people migrated to California to prospect for gold. Additionally, the cholera epidemic of the same year, killed roughly 4,000 residents in Missouri (Johnson, Smith, et al., 1998). Perhaps the family migrated to Texas after the Civil War because tenant farming and sharecropping were the main sources of employment for African Americans and this type of work flourished in the South. Although the reason(s) for the Franklin's move to Texas is undetermined, Ben Franklin eventually made his home in La Grange, Fayette County, Texas.

Ben Franklin became well acquainted with the Texas penal system. On 17 June 1868, under the alias of Frank Farquar (convict #1233), Ben was accused of and pleaded not guilty to the crime of theft from a store house (Cause No.1143). He was convicted in Fayette County, Texas and received a five-year sentence. He was received in the penitentiary on 29 June 1868. On 6 November 1869 he was working at Central Railroad. At the time of this sentencing, Farquar (Ben) resided in Fayette County, Texas, was 19 years old (20 years old according to his convict ledger), 5'6", and weighed 171 pounds. He was an uneducated laborer from Missouri, single, and smoked tobacco, but he did not drink. He did not have any scars as documented on his convict ledger. He was discharged 29 June 1873 (Ancestry, 2012b).

After Farquar was discharged, it did not take long for him to reenter the prison system. Farquar returned to prison as Ben Franklin (convict # 5638). On 27 November 1876, Ben was convicted of burglary in Fayette County and received a three-year sentence. He weighed 206 pounds, used tobacco, was intemperate, and was married. According to an 1870 Census record (Census Place, 1870a), Ben was married to Milly Franklin and they had three children: daughter Julie (age 8), daughter Patsy (age 6), and son William (age 2). An 1865 marriage certificate shows Benjamin Franklin and Malinda Franklin (Freedmen) were married on 30 December 1865. Ben was received in the penitentiary on 7 December 1876. On 9 July 1877, he escaped from Freeman camp, but was recaptured on 17 July 1877. Ben was discharged on 1 May 1880. Sometime between his recapture on 17 July 1877 and his next, and final, term of imprisonment in May 1888, Ben sustained a series of injuries including scars on his left jaw, a scar on the back of his head, a scar on his right shoulder, a scar below his right shoulder blade, three scars on his right hip, and missing toes from both of his feet (Ancestry, 2012b).

Nearly eleven (11) years passed without a recorded incident for Ben. During this time, Ben met and married Lucy Langrum. Ben Franklin and Lucy Langrum obtained a marriage license on 26 March 1888 and were married on 29 Mar 1888; Rev. J. Jones officiated. Their marriage record was filed on 9 April 1888 (Family Search, 2017). Ben's and Lucy's marriage was short-lived; one month prior to their union, on 25 February 1888, Ben allegedly assaulted George Harrison with the intent to murder him. Eight weeks after Ben and Lucy were married, Ben was on trial again. On 17 May 1888, Ben was indicted and charged with Assault with Intent to Murder. Because Ben failed to appear in court, a capias was issued and he was arrested on 18 May 1888. District Attorney J. W. Bethany was the prosecutor. At his trial on 23 May, Ben pleaded not guilty, but a jury found him guilty although the foreman stated otherwise. J. C. Killaman, the foreman, read the verdict:

> "We the jury find the defendant *not* [emphasis added] guilty as charged in the indictment and assess the punishment at five (5) years in the penitentiary. J. C. Killaman, Foreman …[the Judge] therefore ordered adjudged and decreed by the Court, that the verdict of the jury is approved and that the defendant Ben Franklin is guilty of the crime of Assault with intent to Murder … and that he be punished by confinement in the state penitentiary at Huntsville for a term of five years …" (Fayette County, 1888)

Ben was remanded to the Fayette County jail to await further instructions from the Court. Two days later, on 25 May, Ben was back in court and his punishment was read again. This time his punishment was "assessed at two years confinement…" (Fayette County, 1888). John B. Holloway, the District Clerk, corrected the punishment in his July 1888 letter to the Superintendent at Huntsville. Ben was transferred to Ellis camp #1 and six weeks after arriving at the camp, Ben Franklin died on 26 July 1888. His cause of death is listed as Congestive Fever.

At Ben's trial, two people were summoned with the last name of Franklin—Jane Franklin and Ellen Franklin. Others who were named in the records are Andrew Ramsey, Grand Moton, Mary Moton, Eda Moton, Lizzie Daniel, William Green, George Harrison (Plaintiff), and Susan Fulton. Susan Fulton, Jane Franklin, and Ellen Franklin were witnesses for the Defendant Ben Franklin.

Assuming that Ellen and Jane Franklin were relatives of Ben, a search was conducted and they were located in the 1880 and 1900 census records. The 1880 census had a record where *both Ellen and Jane* were living in the same household in Delta County. Jane was the wife of Squire Franklin who was of appropriate age that he *could have been* Ben's father, being about 57 at the time of Ben's trial. Jane was two years younger. More importantly *both* Jane and Squire were born in Missouri. Ellen, the other witness, was the wife of Reece Franklin, son of Squire and Jane. Ellen's maiden name per her marriage record was Harrison (Ancestry, 2014a). It is undetermined as to the relationship, if any, of Ellen and George Harrison (the plaintiff that Ben allegedly assaulted).

After a thorough research, the Squire Franklin family best fit the profile for being relatives of Ben. They moved to Texas around 1866 per Voting Registry of Squire Franklin living in Lamar, Texas in 1867(Ancestry, 2011) and Jane and Ellen Franklin being called as witnesses for the defense further strengthens this opinion. Squire Franklin (age 38) was located in the 1870 Census. He was married to Jane (age 36), they were farming in Lamar, Texas, and had four children: Ann (age 11), Reese (age 9), Molley (age 5), and Willey (age 2) (Census Place, 1870b). Ben would not have been listed in their household because he was serving a prison sentence from 29 June 1868 to 29 June 1873.

According to an 1880 Census, Jane Franklin (b. Missouri) was living in Delta County, Texas. This census also included a daughter-in-law named Ellen, age 19 who was born in Arkansas. Other names on the record were: Squire Franklin (age 49—head), Jane (age 47—wife), Reese (age 18—son and married), Mary J. (age 14—dau), William (age 12—son), Nancy (age 9—dau), and John (age 3 mo—son). This record has Reece married to Ellen nee Brown; they married in 1870 (Census Place, 1880a). Reece later married "Lou Harrison" on 22 Nov 1888 (Ancestry, 2014a). Information for Reese, Willey, and possible descendants is documented below.

1) In the 1900 Census, a Reece Franklin was located. He was living in Hopkins, Texas with his wife Lou (Louis Harrison) and their children: Oliver (son, b. 1895), Lou (daughter b. 1898), Josie (niece, b. 1890), Ezelle (nephew, b. 1886), and Harry Harrison (step-son, b. 1884) (Census Place, 1900). Reece and Louis Harrison were married in November 1888.
2) Willey (Willie) Franklin married Alice Pratt and they had a son named Clemmy Franklin who was born in Cooper, Delta County, Texas. (Death Certificate for Clemmie Franklin)
3) Morris Franklin (d. 1999) of Fort Worth, Tarrant County, Texas was the son of Clemmy (aka Coony) and Alice Franklin. Morris' funeral services were held at Greater Worth Hill Baptist Church at 2108 McKinley Ave. (817-624-2926). The descendants would be the five sons named in Morris' obituary. All five sons were living in the Fort Worth area when their father died: Morris (and wife Gloria), Shelley (and wife Barbara), Theodore, Bennie, and Ronald.
4) Morris Franklin's obituary contained the name of a business that the sons were a part of—Franklin & Sons Construction—but this business does not appear to be active today.

Other avenues that could lead to descendants of Ben Franklin are the families of the witnesses in his 1888 case. Grand Moton, Mary Moton and Eda Moton [witnesses for the defendant] were located in the 1880 Census. This Black family was living and farming in Precinct 5, Fayette County. Charles "G" is Grand (age 45), Eda Ann (age 42) and Mary A (age 9). Lizzie Daniels was also located in the 1880 Census. Lizzie Daniels was black, age 45, and was living in La Grange, Fayette County, Texas

with her daughter Sylva (age 25) and granddaughter Lizzie (age 6). Susan Fulton was witness for the plaintiff and an 1880 Census search produced one record for Ephraim Fulton, Black (age 45) (Census Place, 1880b).

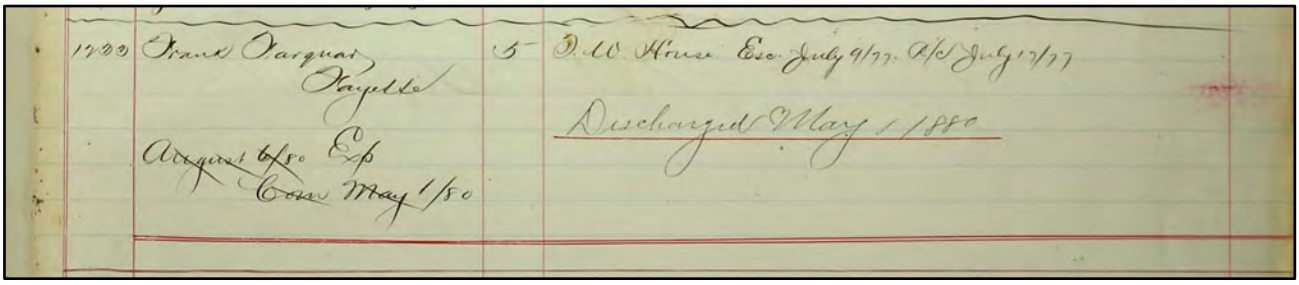

Figure 7.7.3: The Inmate Conduct Card of Frank Farquar (or Ben Franklin), Texas State Penitentiary

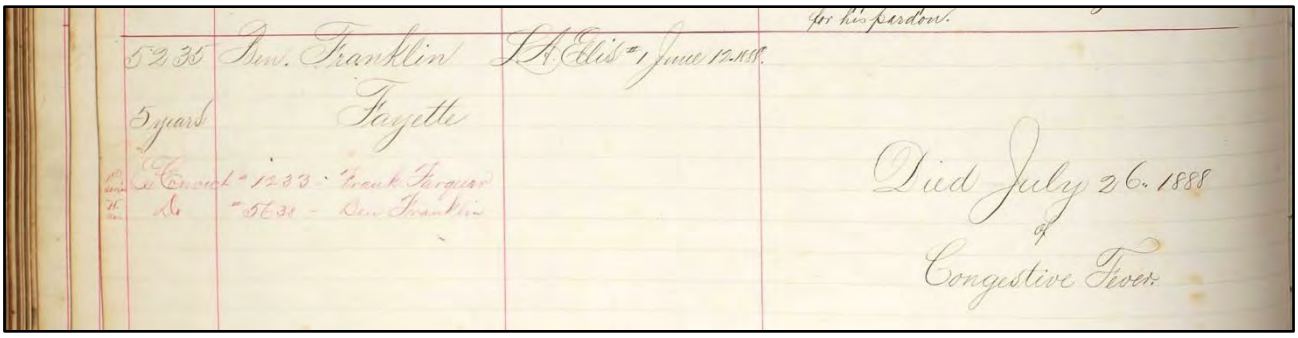

Figure 7.7.4: The Inmate Conduct Card of Ben Franklin (or Frank Farquar), Texas State Penitentiary

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Census Place
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Census Place
1880b *Precinct 5, Fayette, Texas*; Roll: *1303*; Page: *192B*; Enumeration District: *061*

Census Place
1880c Round Top, Fayette, Texas; Roll: 1303; Page: 21A; Enumeration District: 056

Census Place
1870a *Precinct 3, Gonzales, Texas*; Roll: *M593_1587*; Page: *440A*; Family History Library Film: *553086*

Census Place
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8.0 BURIAL CONDITION

8.1 Burial Practices and Archaeothanatology

The location and position of skeletal remains within the grave can provide insight into the manner in which the body was treated just before and during burial, as well as any forces to which the skeletal remains were subjected as the body decomposed. The study of this process is known as archaeothanatology, of which the primary objective is to interpret the attitudes towards death by studying the remains and analyzing their treatment (Duday 2009). As such, this type of analysis falls within the realm of a bioarchaeologists, who are trained in both human osteology and archaeological methods and theory. Using this approach, a bioarchaeologist may reconstruct the treatment of human remains by way of careful excavation and recording, as the final position of the skeletal remains will be impacted differently if the body was buried in a void, such as in a coffin, or in a filled space, by the size and shape of the grave and container, and whether taphonomic forces impacted the remains as the body was decomposing, such as the water table, insects, and roots (Duday 2009; Blaizot 2014).

By using the archaeothanatological approach to human remains excavation, one can discern which of these forces have impacted the original position of the body and determine whether the final body position has been caused by natural forces, religious practices, circumstances occurring before burial, or other intended actions. This approach to contextual analysis requires an archaeologist to maximally expose the remains, record in detail the exact position of the skeletal remains, take numerous photographs, and record taphonomy (Duday 2009). It is also concerned with placement of artifacts that could potentially be grave goods or funerary offerings. Knowledge of the geoarchaeology of the area is also important since the types of soil and hydrology can have an impact on bone placement (Duday, Le Mort, and Tillier 2014).[15]

8.2 Effects on Final Position of the Skeletal Remains

Internal and external factors impact the manner in which a cadaver decomposes, as well as the final position of the skeletal elements at the time the remains are excavated. Cultural factors, non-cultural factors, and physical state of the individuals at the time of death are primary contributing factors (Duday 2009; Roksandic 2002; Zhou and Byard 2011; Surabian 2012; Dautartas 2009; Tõrv 2015). External factors may be either cultural or non-cultural (Tõrv 2015).

Cultural factors include activities by humans, body treatment, and the cultural burial environment. Human activities include any decisions made by the individuals burying the deceased, such as length of time between death and burial of the deceased. Body treatment refers to human activities taken directly to the body such as burying in clothes/shoes or embalming. The burial environment refers to cultural decisions related to the interment vessel, such as burying in a wood/metal coffin, crypt, and/or shroud.

Non-cultural factors include burrowing animals and the non-cultural burial environment. Burrowing animals include insects such as beetles and worms, crustaceans such as crawfish, and burrowing

[15] Duday (2009:37, Figure 18) interprets that the skeletal element movement in Burial 783 at Serris, Les Ruelles is caused by the water table and micro-currents in the coffin void.

mammals such as gophers. The non-cultural burial environment presents a variety of factors from soil moisture to soil matrix.

Physical state refers to the internal taphonomic factors that would affect decomposition. Examples of alteration to physical state include cause of death, age, sex, body mass, and pathology.

8.3 Decomposition

Decomposition stage length is dependent on the environment in which the body is placed, such as temperature, coverings, and oxygen availability. Remains buried more than 1 meter below the surface are more resistant to insect activity and are protected from temperature changes (Surabian 2012), while remains on the surface are exposed to oxygen, insect activity, and temperature fluctuations. Bodies in coffins decompose differentially than those on the surface or buried in contact with sediment, since oxygen availability increases decomposition rates (Surabian 2012). Air pockets can remain within the burial after the coffin warps due to voids created by the coffin sides and lid. These voids result in accelerated decomposition rates, even at depth when compared to surface burials (Mant 1987).

8.4 Sequential Ligament Breakdown

Each of these affects the sequence of ligament breakdown and final location such that articulation of the skeletal elements at excavation provides the clues to decoding the burial processes and intentions of those who buried the individual. The differential breakdown is due to the biomechanical function as well as the amount of soft tissue present over the joint (Mickelburgh and Wescott 2018). Liable joints break down more easily because of the lack of soft tissue and simple articulations, including the hyoid, temporomandibular, phalanges, metacarpals, metatarsals, carpals, tarsals, cervical vertebrae, scapulothoracic, glenohumeral, costosternal, costovertebral, acetabulofemoral, and femoro-patella joints. Persistent articulations have tougher ligaments and include the atlanto-occipital, humeroulnar, thoracic and lumbar vertebrae, lumbosacral, sacroiliac, tibiofemoral, talocrural, and talocalcaneal (Duday 2009). As such, it is more likely for an arm to disarticulate from the shoulder before a forearm will detach from the humerus. Likewise, it is more likely for the feet and hands to disarticulate before the ankle (calcaneus from talus).

Decomposition occurs in specific sequences with the liable joints decomposing first and the persistent joints decomposing slower than the liable joints (Duday 2009). Secondary and primary burials can be distinguished by identifying which anatomical joints are still present. A primary burial is one where the body decomposes in the final location it is buried. The body, in a secondary burial has partially or fully decomposed in one location and moved to the final location after this decomposition occurred.

8.5 Temperature

8.5.1 External

Temperature is a key element in the rate of decomposition with autolysis developing faster at higher environmental temperatures. As ambient temperatures increase, elapsed time between decomposition stages decreases. Hydrolysis, caused by interaction with water, accelerates bacterial growth and enhances putrefaction in individuals exposed to temperatures above 40^0C (Zhou and

Byard 2011). Enclosure in a coffin that is left outside unburied should result in increased temperatures inside the coffin, with more significant differences in the summer than winter months. Although there are no studies specifically pertaining to temperatures inside coffins left on the surface, artificial nest box studies may be used as a proxy since they are also constructed of wood. Internal temperatures inside nesting boxes are directly related to direct sunshine exposure. In these studies, exposure duration has the most influence on high temperatures in boxes (Ropert-Coudert, Cannell, and Kato 2004). Direct sunlight increases internal temperatures in nesting boxes up to 5-10^{0}C (Griffins et al. 2017:11). The temperatures in a coffin should react similarly, albeit more extreme as they have no ventilation, while nesting boxes have a half inch or more of ventilation as well as an entrance.

8.5.2 Internal

Increased body temperatures also originate from the temperature of the body before death, not just external temperatures influencing the cooling rates and heat dissipation. Death from infectious diseases accelerate decomposition because of the preexistence of bacteria in the blood and organs and elevated temperature from a fever (Zhou and Byard 2011; Dautartas 2009). Heat stroke, intracranial hemorrhage, central fever, physical activity, or illicit drugs are also sources of high internal body temperature at the time of death (Zhou and Byard 2011). Additionally, individuals with less body fat skeletonize faster because subcutaneous and abdominal fat slows down heat dissipation of the body (Mant 1987; Gonzales et al. 1954). Thus, malnourished individuals and those exposed to strenuous exercise without adequate calories to retain fat stores would decompose more rapidly.

8.6 Burial Environment

Burial environment has a significant impact on the final positioning of the skeletal elements (Duday 2009; Harris and Tayles 2012; Roksandic 2002). Burials in voids allow movement of the skeletal elements as the body decays. As such, the width of a coffin, containers, wrappings, or other voids delimit the movement of the skeletal elements. Infilling of the sediment, whether delayed or progressive, also influence the movement of skeletal elements, resulting in elements sifting and being displaced (Duday, Le Mort, and Tillier 2014). Delayed infilling allows the ribcage to flatten and shift since the chest cavity is empty; metacarpals and phalanges fall into the chest or pelvic area due to the same void. Progressive infilling, which occurs during decomposition, tends to prevent the movement of skeletal elements, since tissue is quickly replaced by sediment. Further, insects move dirt out from under the remains, causing “sinking” of the bones. Any voids under the remains from the coffin/container shape and uneven floor cause warping of a container or a corpse; as decay occurs, whole sections such as the torso, skull, lower legs, etc., will shift together, sliding as a whole in one direction, collapsing on each other, the skull displacing and rolling upside down, or complete jumbling of the elements, such as the torso. Wall effects defining the architectural limits of the container or grave space, delineated empty space, and covered space when the grave is immediately refilled will also influence the final position of the skeletal elements (Roksandic 2002).

8.7 METHODS FOR EXCAVATION

As described on Chapter 6, Section 3, remains were excavated and recorded using archaeothanatological methods: Coffin outlines, when possible, were exposed by scraping with a backhoe. Once found, grave shafts and coffin outlines were photographed, mapped, and measured, and grave orientation was determined. Shovels and trowels were used to remove overburden from the remains. Only wood tools were used to remove sediment immediately surrounding the skeletal elements and any associated personal artifacts or coffin hardware and coffin wood. Munsell color and texture of the sediment was recorded and all sediment excavated after finding the coffin outline was screened using ¼" mesh. Once exposed, human remains were mapped, photographed and additional photographs were taken for 3D reconstruction. In instances when necessary, close-up photographs were taken of any personal items and coffin hardware. Care was taken to record body and skeletal elements position and location within the grave. Each bone was removed according to skeletal element. If remains were on top of another, observations of the layering were noted, such as the association of the atlas and skull.

Following the Harris and Taylor (2012) body position criteria, body position may indicate whether wrappings were loose and non-durable, tight and non-durable, or tight and durable, and whether the individual was in a narrow or wide coffin. Wrappings are not considered here because mostly only coffin outlines and/or nails were present at Bullhead Camp Cemetery. Narrow coffins are defined by Harris and Taylor (2012:233) as a "body placed in a hard, narrow container that decomposed slowly" and a wide coffin as a "body placed in a hard wide container that decomposes slowly." With a narrow coffin, there is limited space within the coffin, and the remains are constricted. This can cause a wall effect, where the shape of the container is outlined in the shape of the remains (see Burial 33, Figure 8.7, for an example). Additionally, there may be verticalization of the clavicles (Duday 2009; Blaizot 2014). For a wide coffin, there is no constriction with internal and external space between the body and the coffin walls (Harris and Taylor 2012). The pelvis disarticulates, the patella tends to fall to the lateral side of the femora, and the femora rotate laterally.

Burial excavation procedures were devised by Dr. Whitley and utilized some protocols set by Tiné and Boyd (2003) and Sprague (2005). Forms were designed specifically for historic cemetery excavation and included data gathered on the grave shaft, burial container, body position, artifact locations and positions, and types and number of artifacts and personal objects. Detailed maps were drawn. Coffin hardware and artifacts were gathered by quadrants, a procedure identified by Tiné and Boyd (2003). Quadrants included sections A-F. The skull is separated into areas A and B, the torso is split into left (section C) and right (section D) sides, and sections E and F encompass the legs and feet, left and right respectively. An additional quadrant was included on the central line over the chest area spanning from the neck area to the waist, which was not included in the original form design by Tiné and Boyd (2003). This was added to differentiate the buttons and artifacts gathered on the center line, such as shirt buttons, underwear buttons, and pins that may be located on the neck. Grave shaft dimensions were collected, along with the dimensions of the coffin. Coffin dimensions were based on the visible edges of the preserved wood, however, in some instances, it had to be determined by coffin nail location. Unfortunately, coffin collapse may have reduced the initial dimensions of the coffin and it was not always possible to determine the dimensions of the coffin

from the base, which retains the initial shape, since the sides of the coffin generally tend to preserve and not the base. Headboard, footboard, shoulder width, and length were collected for hexagonal coffins. Maximum width and length were collected on rectangular coffins. Orientation of the grave shaft and coffin were also collected.

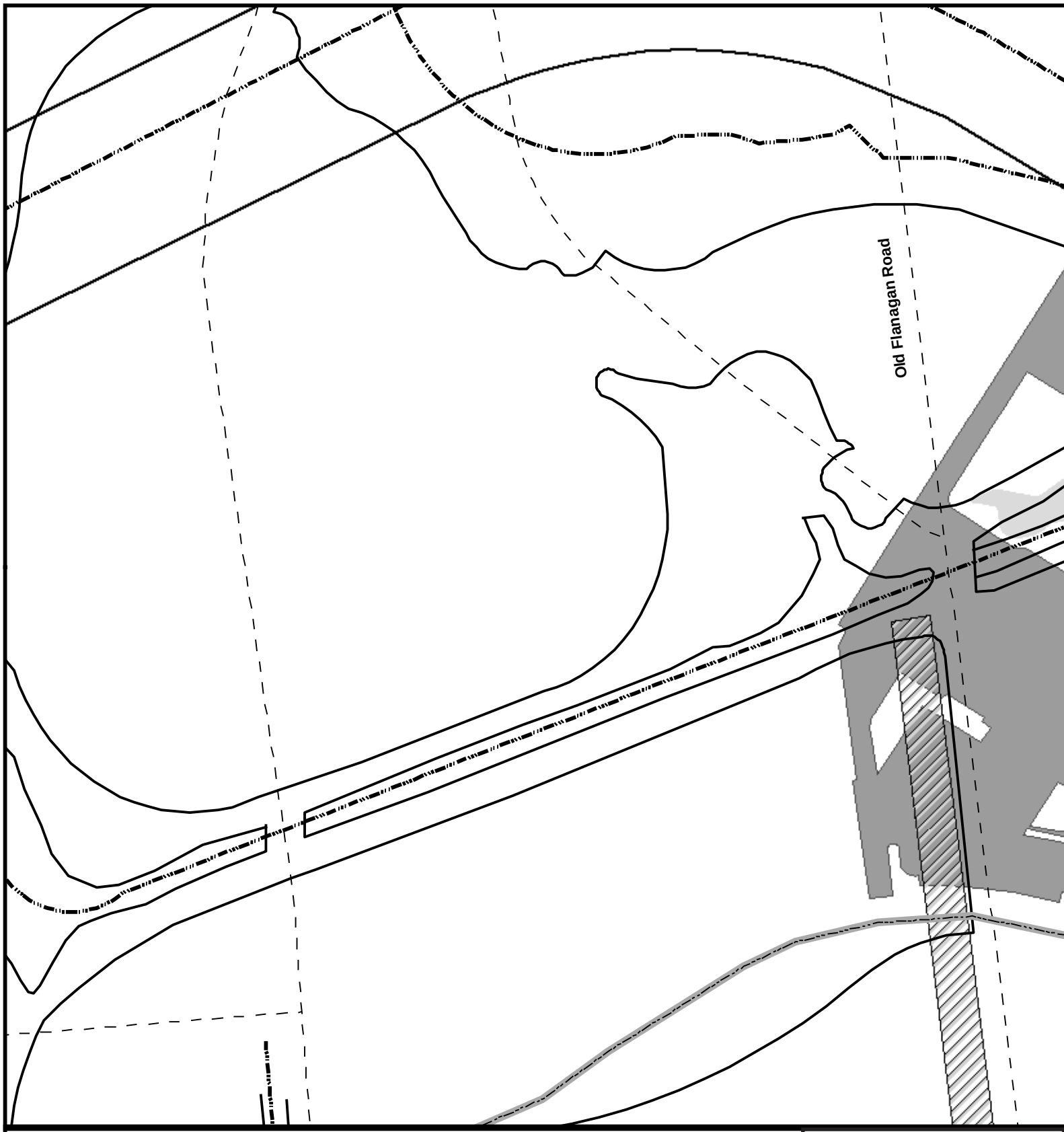
Data collected on body positions followed criteria in Sprague (2005). The information collected included the orientation of the body. The orientation of the body was based on the location of the head in the grave, the head-to-foot orientation, and the direction the head was facing according to orbit direction, body flexure, knee flexure, form of disposal, hand and arm position, articulation, and type of deposition (on the back, side, face down, etc.).

Maps were drawn on graph paper by the excavation crew. Detailed drawings of the grave shafts and coffin outlines were produced when visible. Artifacts and nails were mapped before being removed and bagged by zone. Artifacts and nails were bagged separately. Nails were mapped indicating whether the head was up, point was up, or laid on its side. If on the side, the head direction was marked with an 'X'. Recording direction allowed for additional reconstruction of the coffin. Only a rough sketch of the remains was made, because final maps were drawn from detailed photographs. Field maps provided confirmation of artifacts and nails in the final map. Before removal, all remains were photographed in detail, usually collecting at least 30 to 40 pictures. A photo was taken of the photo data board at the beginning and end of the photography session to ensure burial data was documented and photographs could be easily sorted into folders for collections. A plan photograph from above, generally taken from a ladder, and one taken from the feet included the photo board. Detailed photographs were taken for 3D reconstruction and to conserve detailed, close-up photographs of the entire burial.

8.8 Primary Burials

Most interments at Bullhead Camp Cemetery were primary burials (Figures 8.8.1 and 8.8.2). Displacement of skeletal elements in primary burials followed patterns typical of voids in the grave, allowing movement during decomposition. For primary burials, the difference in body position is dependent upon if the coffin was small and tight on the body, the coffin was large and allowed for movement of the skeletal elements during decomposition, and/or if the floor of the grave was uneven. All burials were placed on the back in an extended position. Either coffin wood or nails were present in every grave, indicating delayed infilling with sediment and a void present during decomposition due to the coffins (Harris and Tayles 2012; Duday, le Mort, and Tillier 2014).

Individuals were buried in hexagonal or rectangular coffins (Table 8.1). In most instances, the shape was easy to determine because the outline of the coffin was visible or the position of the nails created an outline in the absence of coffin wood. Narrow rectangular coffins fit tight to the body allowing little skeletal movement during decomposition, while oversized coffins allowed greater movement of the skeleton during decomposition. Hexagonal coffins created a narrow coffin outline and skeletal movement including verticalization of the clavicles, linear delineation of the legs, and the feet touching creating the coffin shape (Duday 2009; Blaizot 2014). This resulted in the constriction of the body with little movement of the skeletal elements after decomposition.



Topographic and landform information gathered from USGS Topographic Maps, Sugarland, Texas

0 125 250 Feet

0 40 80 Meters

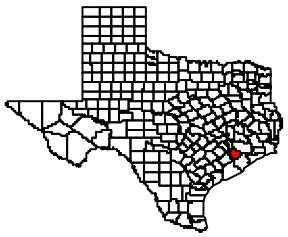
GOSHAWK ENVIRONMENTAL CONSULTING, INC.

Figure 8.1
Sketch Map
Fort Bend County, Texas

James Reese CTC
Fort Bend ISD

Date: 2 June 2020

- Historic Road
- Modern Road
- Water Ways
- Historic Topographic Lines
- Residential Area
- Shopping Center
- Landing Strip
- Legal Cemetery Boundary
- Impervious Cover as of 12-20-2019



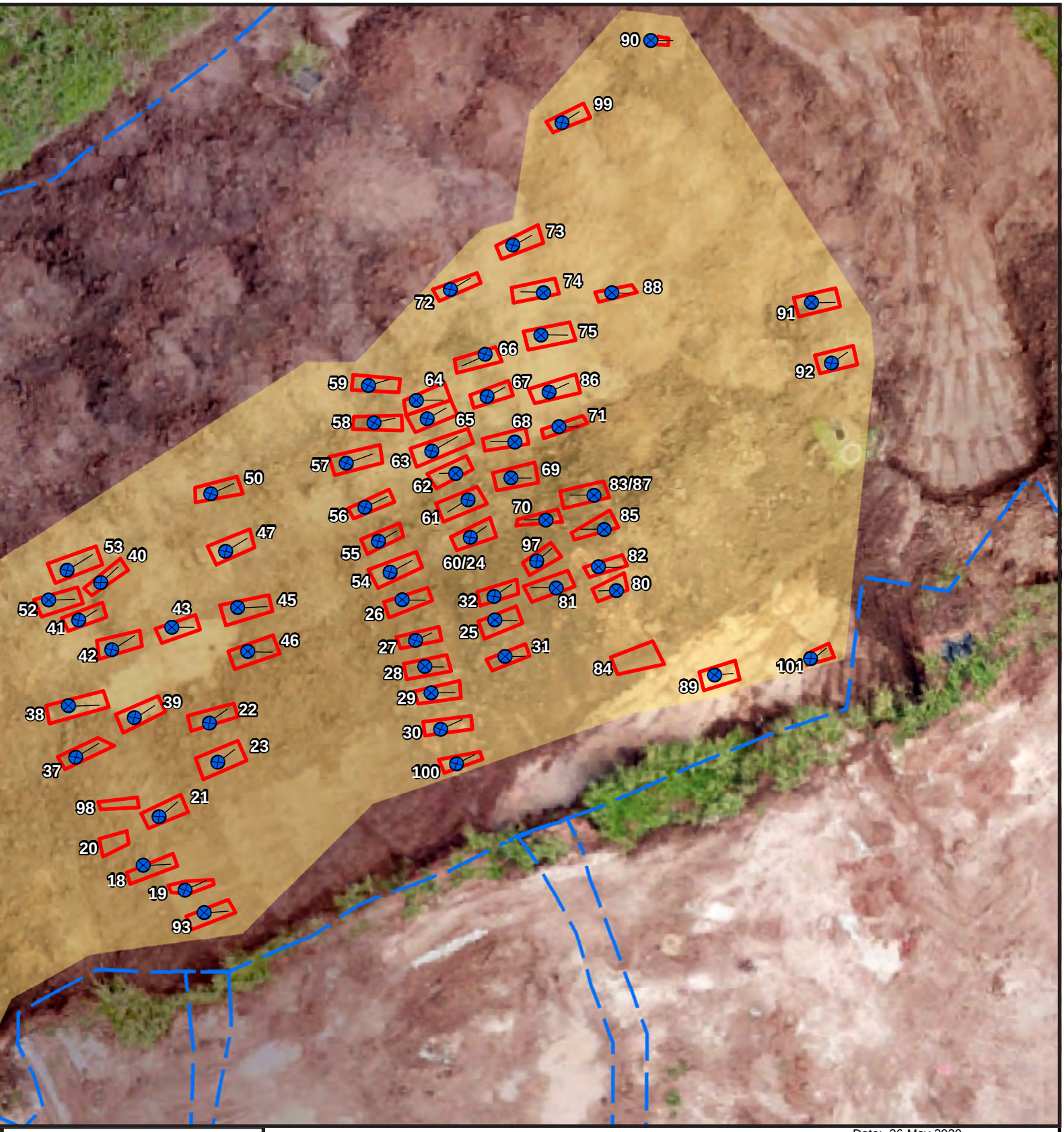
Map Source: USDA, 2014 NAIP Natural Color Imagery for Texas.

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

0 10 20 Feet

0 3.5 7 Meters

Figure 8.2
Burial Orientation Map
Fort Bend County, Texas



James Reese CTC
Fort Bend ISD

Orientation of Remains
Grave Shaft Outline
Legal Cemetery Boundary
Executive Boundary

N

Date: 26 May 2020

Table 8.1: Coffin Width and Shape

Burial	Coffin Width	Coffin Shape	Description and Support for Interpretation
1	Indeterminate	Indeterminate	Disturbed
2	Indeterminate	Indeterminate	Disturbed
3	Indeterminate	Rectangular	Disturbed
4	Wide	Rectangular	Backhoe disturbed skull; lateral rotation of the femora
5	Wide	Indeterminate	Lateral rotation of the femora; niche for digging present at footboard
6	Wide	Rectangular	Lateral rotation of the femora
7	Narrow	Indeterminate	Knees and ankles touching or in anatomical position close together; patella in place
8	Narrow	Rectangular	Knees and ankles touching or in anatomical position close together
9	Wide	Rectangular	Lateral rotation of the femora; uneven grave floor
10	Indeterminate	Indeterminate	Backhoe
11	Indeterminate	Rectangular	Backhoe
12	Wide	Indeterminate	Lateral rotation of the femora
13	Narrow	Rectangular	Knees and ankles touching or in anatomical position close together
15	Narrow	Hexagonal	Knees and ankles touching or in anatomical position close together
16	Indeterminate	Indeterminate	Scattered
18	Wide	Rectangular	Lateral rotation of the femora
19	Indeterminate	Hexagonal	Empty
20	Indeterminate	Indeterminate	Scattered
21	Narrow	Rectangular	Knees and ankles touching or in anatomical position close together; patella in place
22	Narrow	Hexagonal	Knees and ankles touching or in anatomical position close together; patella in place
23	Wide	Rectangular	Lateral rotation of the femora; right humerus moved laterally
24/60	Wide	Rectangular	Lateral rotation of the femora; head elevated; left leg rolled to edge of coffin
25	Wide	Rectangular	Uneven grave floor with rise in middle and slump on left side; lateral rotation of the femora; ribs upside down
26	Wide	Rectangular	Lateral rotation of the femora
27	Wide	Rectangular	Lateral rotation of the femora; legs rotate to the left only

Burial	Coffin Width	Coffin Shape	Description and Support for Interpretation
28	Narrow	Rectangular	Knees and ankles touching or in anatomical position close together; patella in place
29	Wide	Rectangular	Lateral rotation of the femora; head elevated; uneven grave floor
30	Wide	Rectangular	Lateral rotation of the femora
31	Wide	Rectangular	Lateral rotation of the femora
32	Narrow	Hexagonal	Head elevated; patella in place; both tibiae rotated laterally and shifted toward the femora; uneven grave floor
33	Wide	Rectangular	Lateral rotation of the femora; left tibia, fibula and bones of the foot shifted to the north with wall effect; uneven grave floor
34	Wide	Rectangular	Lateral rotation of the femora
35	Narrow	Indeterminate	Patella in place; uneven grave floor
36	Narrow	Rectangular	Knees and ankles touching or in anatomical position close together; chin to the chest
37	Narrow	Indeterminate	Knees and ankles touching or in anatomical position close together; patella in place
38	Wide	Rectangular	Lateral rotation of the femora
39	Wide	Rectangular	Lateral rotation of the femora
40	Wide	Rectangular	Lateral rotation of the femora
41	Narrow	Hexagonal	Patella in place; knees and ankles touching or in anatomical position close together; elevation or "verticalization" of the clavicles
42	Narrow	Hexagonal	Elevation or "verticalization" of the clavicles; lateral rotation of the femora
43	Wide	Rectangular	Lateral rotation of the femora
45	Narrow	Hexagonal	Elevation or "verticalization" of the clavicles; patella in place; ankles touching or in anatomical position close together
46	Narrow	Hexagonal	Elevation or "verticalization" of the clavicles; ankles touching or in anatomical position close together
47	Narrow	Hexagonal	Elevation or "verticalization" of the clavicles
48	Narrow	Indeterminate	Patella in place
49	Indeterminate	Indeterminate	
50	Wide	Rectangular	Lateral rotation of the femora
51	Narrow	Hexagonal	Knees and ankles touching or in anatomical position close together; patella in place
52	Wide	Rectangular	Lateral rotation of the femora; head and legs tilted to the left
53	Narrow	Hexagonal	Knees and ankles touching or in anatomical position close together; patella in place

Burial	Coffin Width	Coffin Shape	Description and Support for Interpretation
54	Narrow	Rectangular	Wall effect; jumbled and disarticulated ribs in clusters, metacarpals and phalanges, segment of vertebrae, radius and ulnae, metatarsals, left tibia rolled laterally, mandible inverted, skull rolled to the left
55	Narrow	Indeterminate	Patella in place; ankles touching or in anatomical position close together
56	Narrow	Rectangular	Knees and ankles touching or in anatomical position close together; jumbled and disarticulated ribs and vertebrae with some in articulated clusters, left radius and ulna inverted, lateral rotation of innominates
57	Narrow	Hexagonal	Jumbled and disarticulated torso and innominates, left tibia and fibula displaced with feet disarticulated and jumbled in one location, skull rotated left with chin on chest.
58	Wide	Rectangular	Wall effect; lateral rotation of the femora; jumbled and disarticulated ribs in clusters, metacarpals and phalanges, segment of vertebrae, radius and ulnae, metatarsals, left tibia rolled laterally, mandible inverted, skull rolled to the left
59	Narrow	Hexagonal	Wall effect; lateral rotation of the femora; elevation or "verticalization" of the clavicles; chin to chest
61	Wide	Rectangular	Wall effect; jumbled and disarticulated torso, legs rotated to the north, metatarsals of left foot in articulation but disarticulated from the rest of the foot, skull and mandible disarticulated and delineated by the north edge of the coffin, and the phalanges are disarticulated and jumbled.
62	Wide	Rectangular	Lateral rotation of the femora; left foot in between the tibiae, except calcaneus. Edge of coffin collapsed into the middle with potential for pushing the foot in to the area between the tibiae.
63	Wide	Indeterminate	Lateral rotation of the femora
64	Wide	Rectangular	Lateral rotation of the femora
66	Wide	Rectangular	Lateral rotation of the femora
67	Narrow	Rectangular	Elevation or "verticalization" of the clavicles
68	Narrow	Rectangular	Elevation or "verticalization" of the clavicles; patella in place
69	Wide	Rectangular	Lateral rotation of the femora
70	Narrow	Rectangular	Head elevated
71	Narrow	Rectangular	Elevation or "verticalization" of the clavicles
72	Narrow	Rectangular	Elevation or "verticalization" of the clavicles; patella in place
73	Narrow	Rectangular	Patella in place
74	Wide	Rectangular	Lateral rotation of the femora
75	Narrow	Rectangular	Elevation or "verticalization" of the clavicles
76	Indeterminate	Indeterminate	Disturbed
78	Narrow	Rectangular	Ankles touching or in anatomical position close together

Burial	Coffin Width	Coffin Shape	Description and Support for Interpretation
79	Narrow	Indeterminate	Patella in place; elevation or "verticalization" of the clavicles
80	Indeterminate	Rectangular	Disturbed
81	Narrow	Rectangular	Ankles touching or in anatomical position close together; elevation or "verticalization" of the clavicles
82	Indeterminate	Rectangular	Backhoe
83/87	Wide	Indeterminate	Backhoe; lateral rotation of the femora
84	Indeterminate	Indeterminate	Disturbed
85	Wide	Indeterminate	Lateral rotation of the femora
86	Narrow	Rectangular	Knees and ankles touching or in anatomical position close together
88	Narrow	Rectangular	Knees and ankles touching or in anatomical position close together; elevation or "verticalization" of the clavicles
89	Indeterminate	Rectangular	Disturbed
90	Indeterminate	Indeterminate	Disturbed
91	Wide	Rectangular	Lateral rotation of the femora
92	Indeterminate	Rectangular	Disturbed
93	Narrow	Rectangular	Patella in place; head elevated; elevation or "verticalization" of the clavicles
94	Narrow	Hexagonal	Knees and ankles touching or in anatomical position close together; patella in place; elevation or "verticalization" of the clavicles
95	Wide	Rectangular	Lateral rotation of the femora
96	Narrow	Rectangular	Patella in place; elevation or "verticalization" of the clavicles
97	Wide	Rectangular	Lateral rotation of the femora
98	Indeterminate	Indeterminate	Disturbed
99	Indeterminate	Rectangular	Disturbed
100	Indeterminate	Indeterminate	Disturbed
101	Indeterminate	Indeterminate	Disturbed

If the coffin was short as well as narrow, with the feet pressed against the footboard, the metatarsals and phalanges fell onto the tibia and fibulae during decomposition. The patella either stayed in place or fell medially of the femora. The size suggests each narrow rectangular coffin may have been built for each individual. The oversized coffins were too wide for the corpse, too long, or both. Lateral rotation of the femora, lateral rotation of the tibia, disarticulation of the pelvis, and disarticulation and

displacement of the skull and mandible provided skeletal evidence of the coffin size. Rectangular coffins were almost evenly split between wide and narrow at Bullhead Camp Cemetery (Table 8.1).

Floors of the graves were flat apart from six graves, Burials 9, 24/60, 25, 32, 33 and 35 (Table 8.1). The uneven floors in these burials resulted in the movement of the remains after decay occurred; movement that was not the result of intentional activity by those who buried these individuals.

Burial 9 had a rise down the middle of the grave, resulting in sloping of the grave shaft to the lateral areas (Figure 8.3). The tilt was most prominent in the lower half of the grave, resulting in a wide separation of the legs when the pelvis separated. The uneven floor sloped to the right side in the torso area. The vertebrae are displaced to the right and the right ribs are out of place.

Burial 24 also had an uneven floor with the potential of the head being elevated (Figure 8.4). The skull rolled lateral of the right humerus while the mandible did not move and was in contact with the cervical vertebrae. The left humerus and femur shifted to the left side of the coffin. The head of the humerus was in articulation with the scapula, however the distal end shifted laterally. Slumping was most prominent at the pelvis causing the entire left leg to roll and lay on the anterior side of the bones. The femur was affected the most with the head of the femur laying alongside the edge of the coffin.

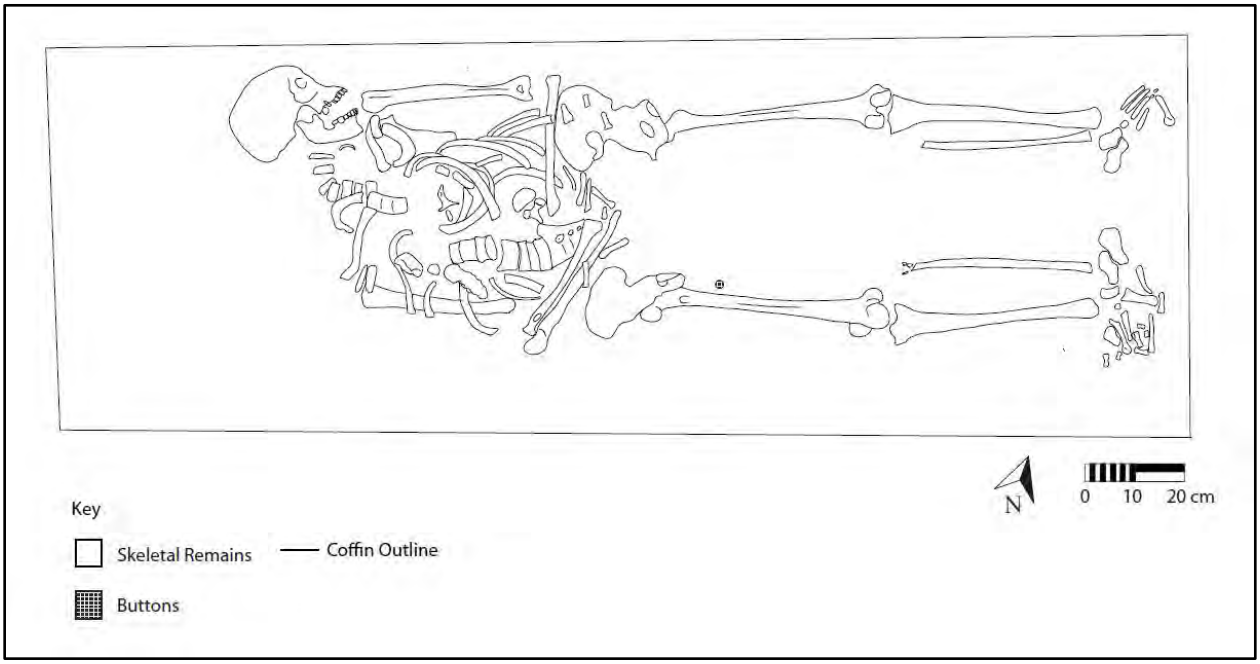


Figure 8.3: Burial 9 Sketch

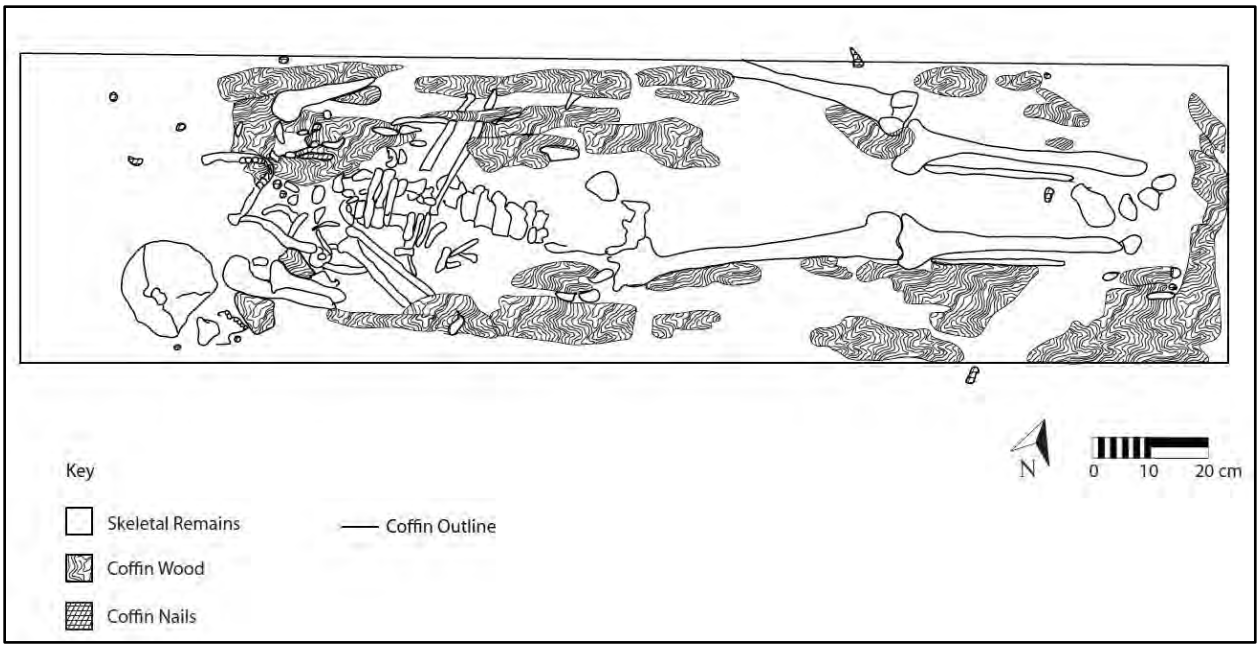


Figure 8.4: Burial 24/60 Sketch

Burial 25 was also displaced from an uneven floor (Figure 8.5). A depression was evident at the upper thoracic vertebrae and may have resulted in the ribs being upside down. The left side of the coffin floor sloped laterally resulting in the left femur lying on the anterior side of the bone and the left ulna shifting away from the humerus and radius.

In Burial 32, the skull, mandible, and first and second cervical vertebra were separated from the rest of the skeletal elements (Figure 8.6). The first and second cervical vertebrae were articulated on the left side of the coffin with the skull and mandible lying on the right side of the coffin. These disturbances were probably the result of the head being elevated in the coffin. Subsequent decay resulted in the movement of the skull and later separation of the vertebrae from the skull as the item elevating the skull decayed. Burial 32 was also characterized by lateral and superior slipping of the lower legs towards the torso, including the tibiae, fibulae, and bones of the feet. Both patellae were in-situ.

Burial 33 had a single slope occurring at the northeast portion of the coffin resulting in the lower left leg rolling to the edge of the coffin, which was evident due to the wall effect (Figure 8.7).

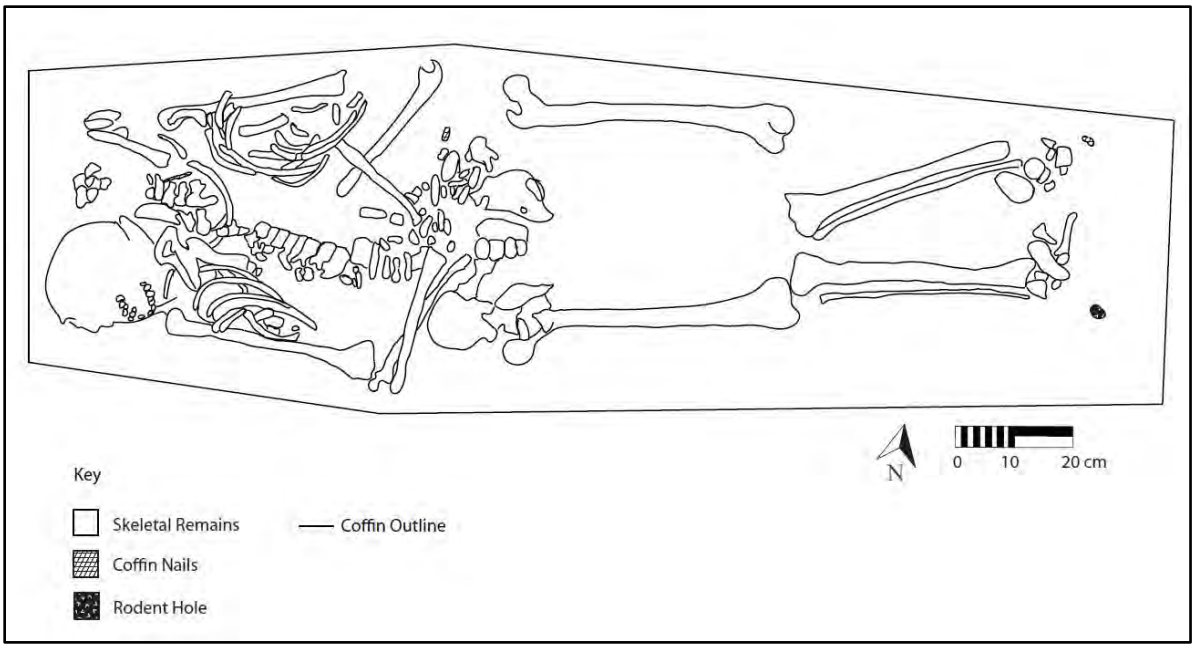


Figure 8.5: Burial 25 Sketch

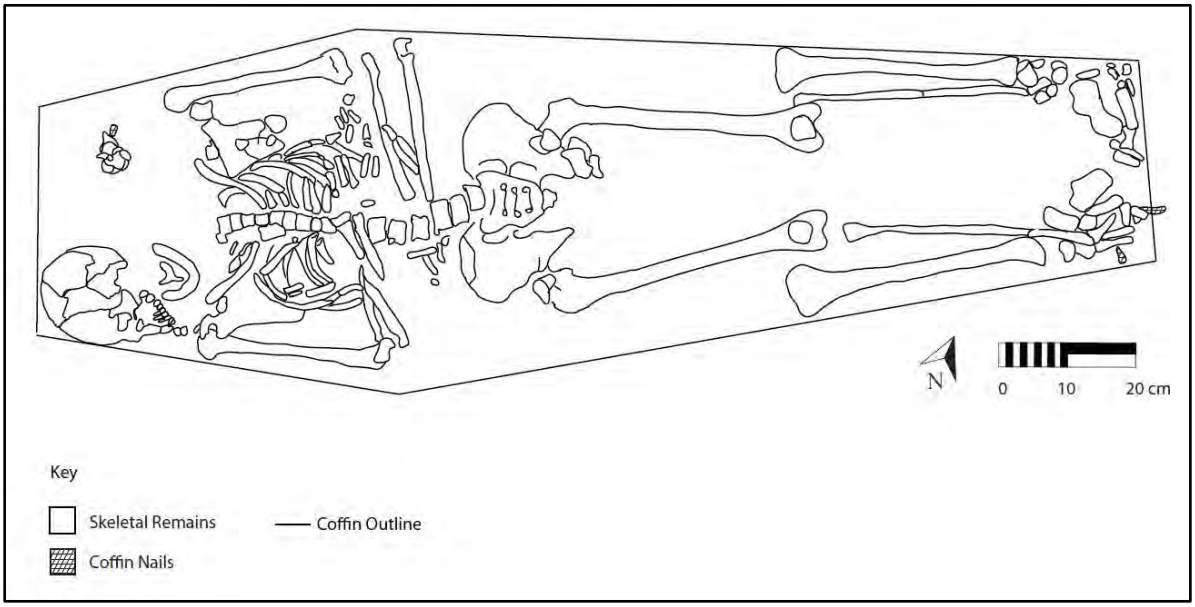


Figure 8.6: Burial 32 Sketch

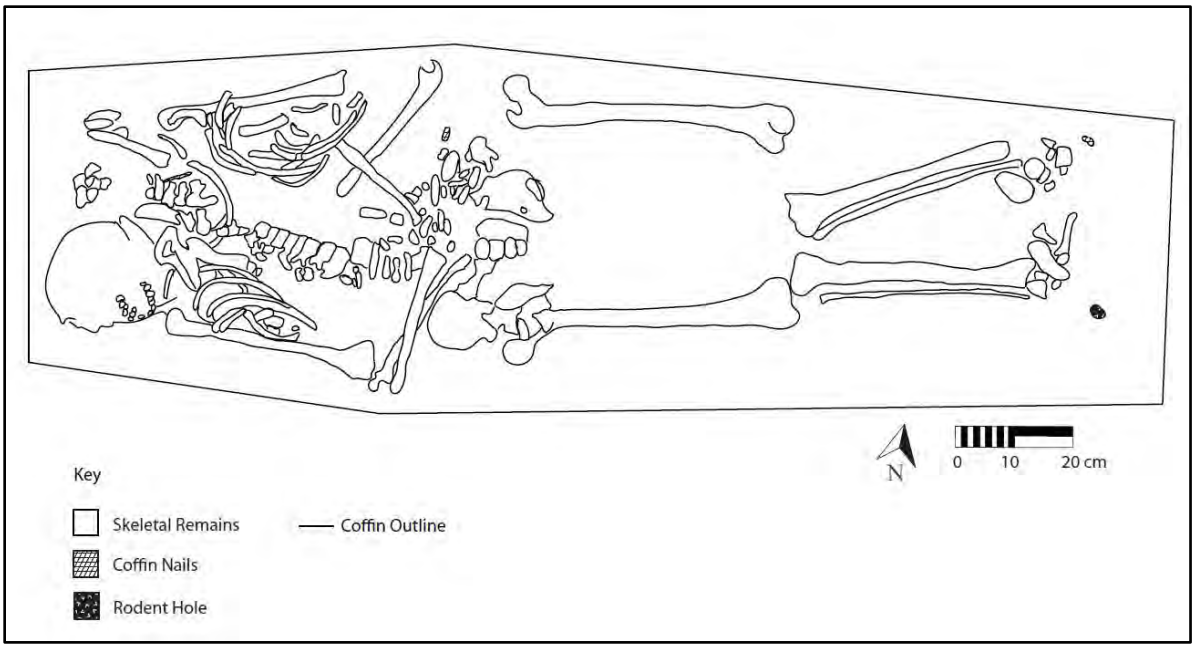


Figure 8.7: Burial 33 Sketch

The last burial with evidence of an uneven floor was burial 35 (Figure 8.8). Similar to Burial 32, the lower legs shifted towards the torso. The right femur was on top of the right tibia and fibula and the left tibia shifted laterally and superiorly of the left femur and in-situ patella.

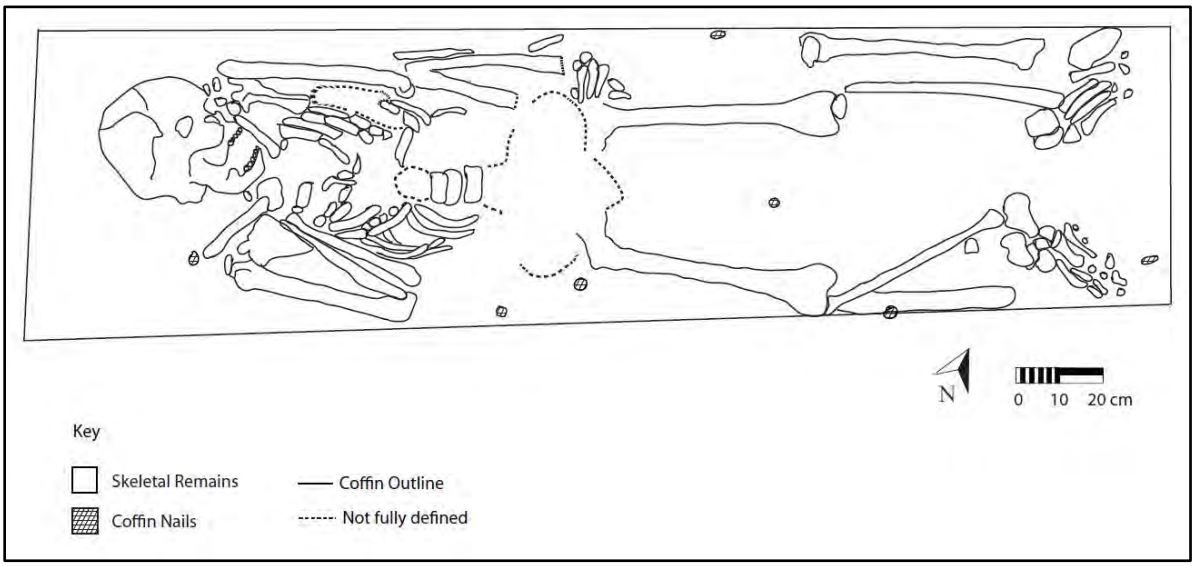


Figure 8.8: Burial 35 Sketch

In each instance, the individuals that dug the burial did not create an even grave floor. The uneven surface caused the base of the coffins to take the shape of the sloping or dipped surface. During decomposition, skeletal remains on the uneven surface shifted or moved to the lowest point,

displacing the remains. The burial voids around the body eventually infilled with sediment as the wood decayed.

In contrast to the previous burials listed, the position of the remains in Burial 52 was possibly the result of the coffin being tilted to one side while being lowered into the ground. The skull and the legs were angled to the left side of the coffin; however, the floor of the grave shaft was flat (Figure 8.9). The torso and pelvis also tilted toward the left side of the coffin, and the skeletal remains were offset from the center line of the grave, having shifted to the left. These indicated the body rolled to the left after being placed inside the coffin. It is also possible the body could have shifted during transport to the cemetery. While it is impossible to know which scenario occurred, archaeothanatological analysis indicates the position of the remains at the time of excavation were not the result of decomposition processes, uneven floors, or the coffin being raised off the floor by boards. There are no tectonic plate shifts resulting in separation or collapse of the remains upon excavation or collapse of the remains upon each other with linear delineation. Blaizot (2014) discusses similar cases that can be used as possible explanations for this type of movement.

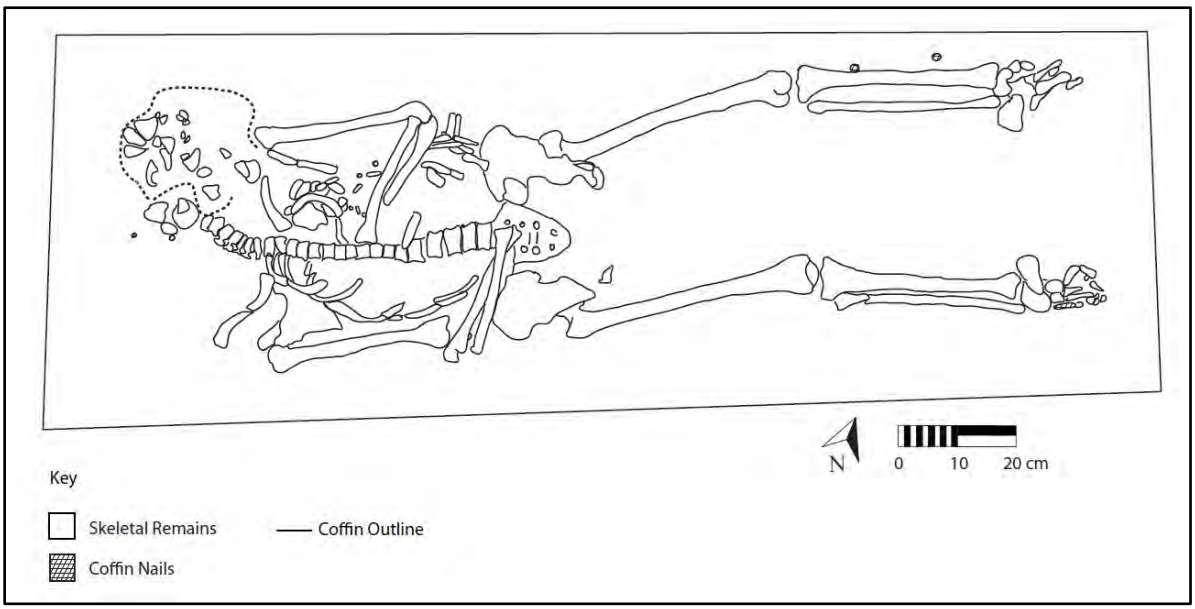


Figure 8.9: Burial 52 Sketch

8.9 Secondary Burial

Five burials at Bullhead Camp Cemetery have numerous skeletal elements disarticulated in the grave. Archaeothanatological analysis of the burials suggested the bodies reached advanced decomposition in the coffin before burial occurred. The burials with this type of disturbance included Burials 54, 56, 57, 58, and 61. Burials 54, 56, and 57 appear to have been buried at the same or relatively similar time due to the orientation of the grave shafts. These graves are parallel to each other and evenly spaced. Burial 58 is slightly offset from the others, but in line with Burial 59. Burial 61 is on a row to the east, but the tightly compacted pattern in this section of the cemetery suggests the grave shafts of Burials 54, 56, 57, and 58 were still visible when the grave shaft for Burial 61 was dug. Due to these similarities, it is possible Burials 54, 56, 57, and 58 were buried at the same time

or with short amount of time separating the interments, and that this single event occurred after decomposition began. Each burial showed displacement of the thorax to varying degrees. Displacement ranged from several skeletal elements to the entire thorax and lower limbs.

Burial 54 had displaced ribs with several that moved while still articulated together (Figure 8.10). The vertebrae were offset to the right of the coffin lying on top of the right ulna. Metacarpals and phalanges were scattered across the torso and lateral of the torso, the mandible was lying on the teeth, and the skull was rolled to the far left. The floor of the grave was even.

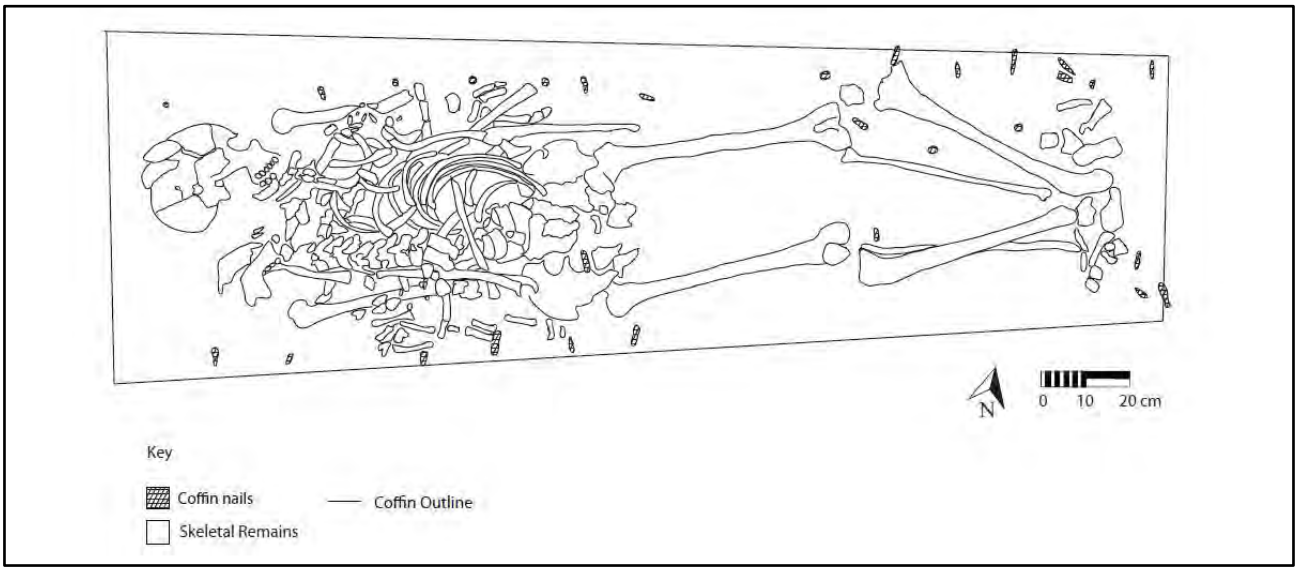


Figure 8.10: Burial 54 Sketch

Burial 56 had fewer displaced bones (Figure 8.11). The legs stayed in position with disarticulation of the innominate bones. Multiple ribs were found scattered across the torso with one distal of the innominate bones.

Burial 57 is characterized by displacement of the entire torso, innominate bones, left tibia and all of the foot bones (Figure 8.12). All skeletal elements except the left femur were out of place. The linear delineation of the skeletal elements indicated the body was placed in a narrow coffin only allowing a small amount of lateral movement. There was no slump of the floor to cause displacement of the skeletal elements.

In Burial 58, the legs and pelvis separated, with the femora, tibia, and fibula rolling and laying on the anterior side of the bones (Figure 8.13). The foot bones were not articulated due to decomposition as the foot rolled with the legs. The greatest displacement of any element in this burial was the ribs, with several ribs still associated in their anatomical order but found in other areas of the torso and upside down. Most of the vertebrae were out of place, and several lumbar vertebrae were on top of the left radius and ulna. The mandible was detached from the skull and lying on the right scapula.

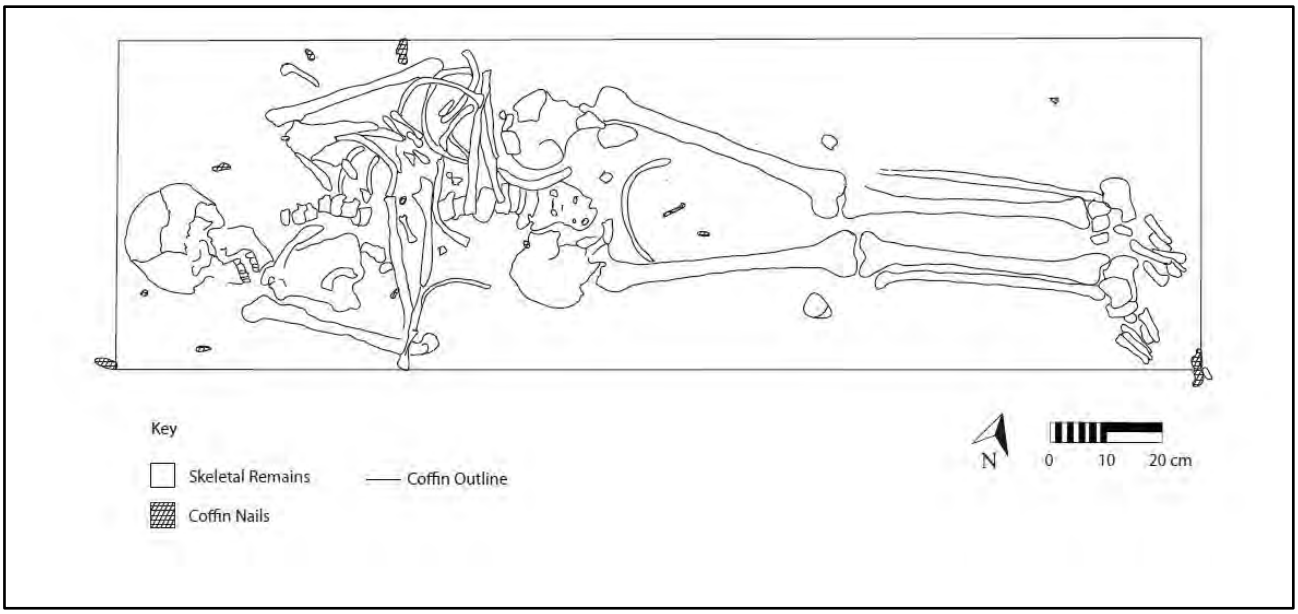


Figure 8.11: Burial 56 Sketch

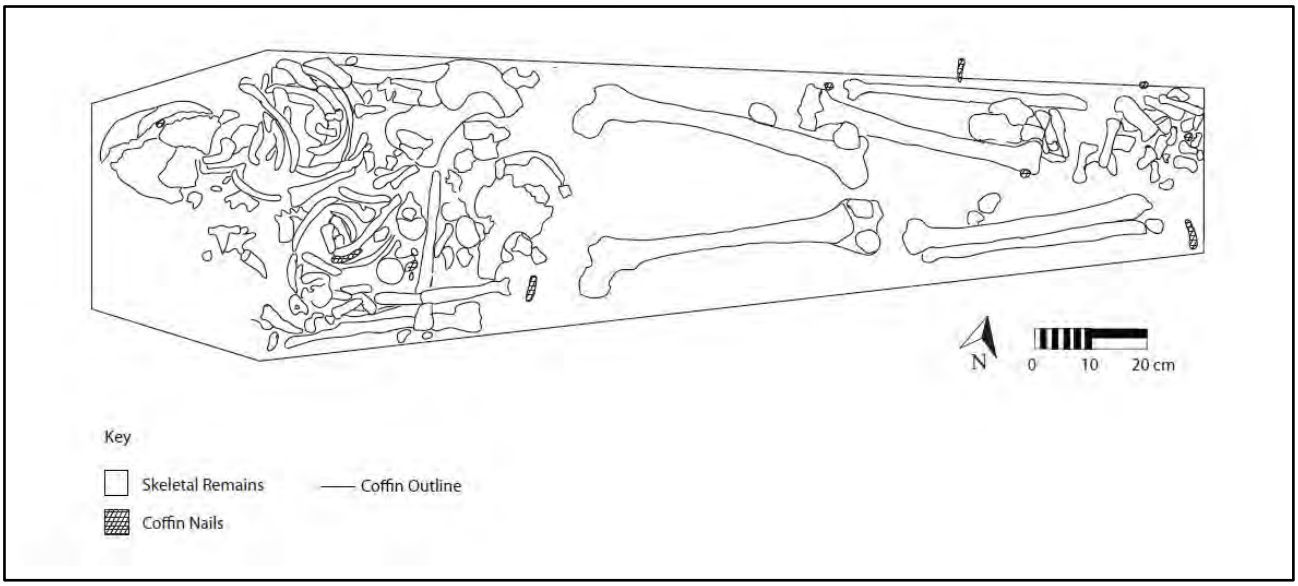


Figure 8.12: Burial 57 Sketch

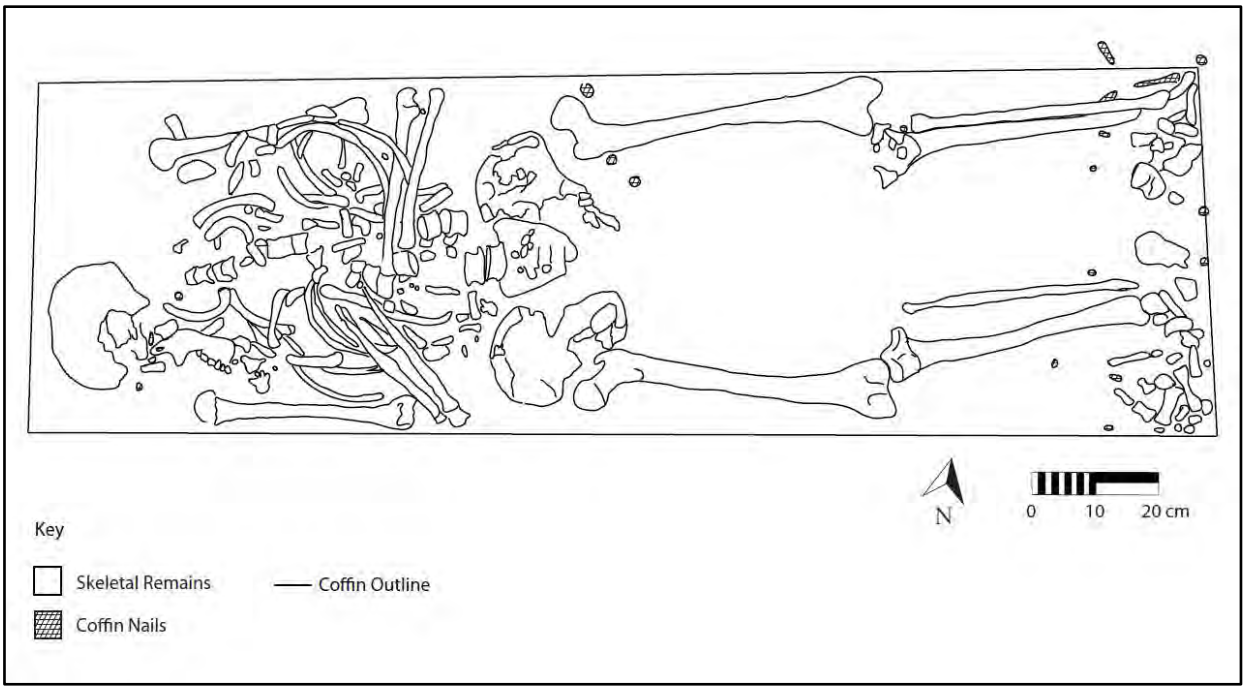


Figure 8.13: Burial 58 Sketch

Burial 61 had a flat grave floor and linear delineation on the right side of the grave shaft where the right arm, ribs, phalanges, scapula, right foot bones, mandible, and skull did not transgress a rectilinear limit (Figure 8.14). The remains formed a straight line, indicating the presence of a barrier, or a coffin wall, at the time of decomposition and displacement. The ribs were scattered, and the radius and ulna had separated from the humerus. With evidence of a flat grave floor and all the skeletal remains shifted towards the right side of the coffin, it is possible this coffin was also tilted when being placed into the ground. Several bones of the feet, such as the left metacarpals and right metacarpals and navicular, were still articulated when they moved inside the coffin void.

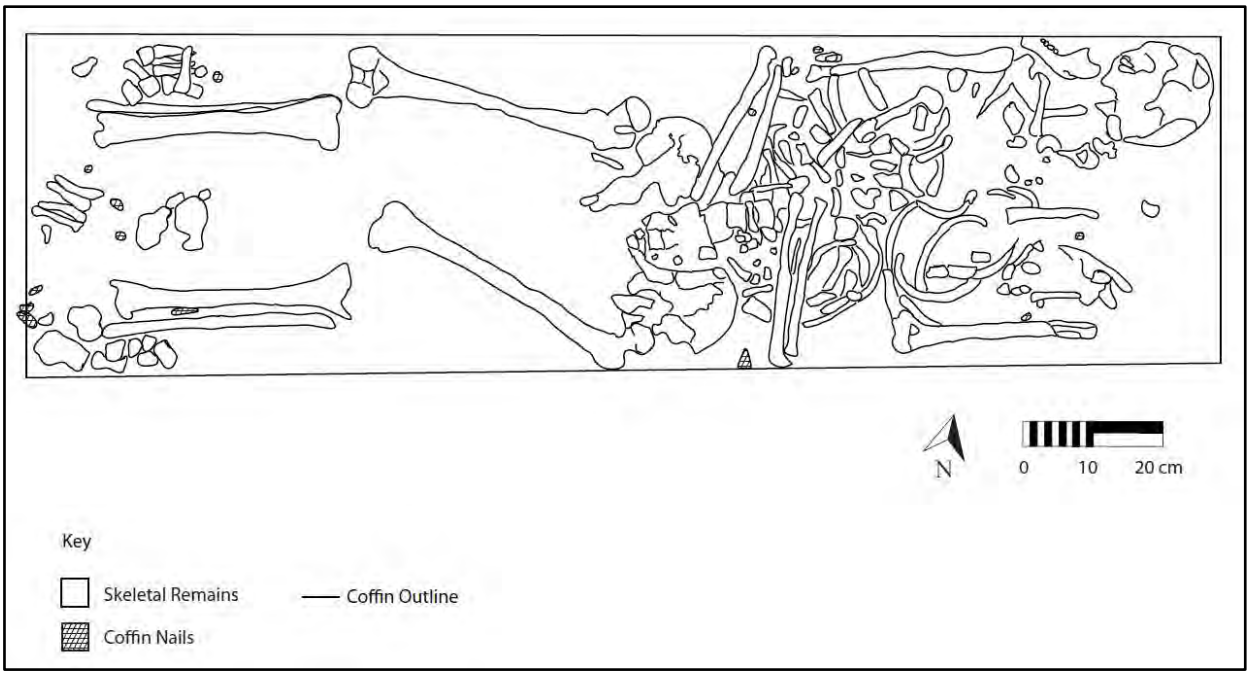


Figure 8.14: Burial 61 Sketch

8.10 Hypotheses for Rapid Decomposition in the Coffins

> *[W]hat is important is not the time between death and funeral, but the state of the corpse at the time of the deposit (Duday and Guillion 2006).*

The pattern of disarticulation apparent in Burials 54, 56, 57, 58, and 61 is dissimilar to the patterns seen in graves with uneven floors, separation of coffin boards, or primary decomposition in voids, as discussed with Burials 9, 24/60, 25, 32, 33 and 35. The incongruence may be the delayed burial of individuals. While notification of family and their ability to claim a decedent's body was required in 1910 (Section 58, pg. XX, House of Representatives 1910), which could have resulted in significant delay in burial, no reference to a family having the opportunity to claim a decedent's body existed before 1910. It is possible, however, that families were contacted but the remains were not expediently buried. Rather, they were left for days or weeks on the surface in coffins before burial. Depending upon the season, advanced decomposition can occur in a few days or a few weeks resulting in the potential for displaced skeletal elements upon eventual burial.

8.11 Water Table

Decomposition of the body inside a container before burial has not been studied with an archaeothanatological focus. Blaizot (2014), Duday (2009), Duday, Le Mort and Tillier (2014), and Nilsson Stutz and Larsson (2016) discuss decomposition in voids as a cause for disarticulated remains, as previously addressed. Duday (2014) and Blaizot (2014; Burial 789) also address the potential displacement of remains by the water table. In their examples, the water table rose and caused skeletal elements to shift and float out of position. Duday (2009; Figure 18, Burial 783) found disarticulated ribs, vertebrae, and sacrum. The sacrum and a lumbar vertebra shifted to the tibiae

and the ribs and vertebrae were jumbled; Duday attributes this to a water saturated environment. Duday and Guillon (2006) give a further example of a female who decayed in a water-saturated environment where movement of certain, but not all, skeletal elements was due to differential ligament decomposition and a void that allowed the skeletal elements to move. Ligament decomposition in this case did not follow the typical chronology in joint destruction.

The Bullhead Camp Cemetery is near the original location of Bullhead Bayou Creek, which was filled in 2006, thus suggesting the remains may have been subjected to movement from the rise and fall of the water table. In order to determine if the burial with skeletal elements found in a jumbled context, water table data for the immediate area of the cemetery was drawn from the USGS National Water Information System website (Waterdata.usgs.gov 2019). Nearby wells, located near bodies of water/rivers and with groundwater data, show a variable range from 10 to hundreds of feet. Data were not available for the immediate area of the cemetery, although a well site was present on the property by Bullhead Camp Cemetery. In these ranges, the water table would not have impacted the graves. During excavation, groundwater did not seep into any of the burials. Flooding was an issue due to heavy rains, but it did not result in an increase in the groundwater level and never seeped into any of the burials. In addition to the lack of groundwater seeping into the burials during excavation, Burials 54, 56, 57, 58, and 61 were farther away from the original stream channel and were on higher ground. Other graves closer to the stream should have also had issues with seeping groundwater if this was the cause of the disturbance.

8.12 Season and Decomposition Rate

There is no method to confirm the length of time before the remains were buried or which season an individual was buried, without confirming an individual's name and life history through a combination of historical and aDNA analysis. However, this does not negate the potential these individuals were not buried expediently.

In the summer, decomposition in a coffin could occur rapidly. For example, the National Oceanic and Atmospheric Administration (NOAA) states the average ambient temperatures in July 2018 ranged from 76.1 degrees to 95.1 degrees, with an average monthly temperature of 86.6 degrees Fahrenheit, and 14 days with highs of 96 degrees and above (Wheather.gov 2020). Parks (2011) indicated advanced decomposition occurred around day 12 at a research facility in San Marcos, Texas, with a mean temperature at 75 degrees and 63.9 percent humidity. Temperatures surpass these in Sugar Land during June, July, August, and September with similar temperatures in May and October (Usclimatedata.com 2020). During any of these months, a coffin left in the sunshine will have internal temperatures that reach above even the highest average daily temperature reported by Parks (2011)[16]. Since higher temperatures shorten stages of decomposition (Dautartas 2009; Zhou and Byard 2011), decomposition should occur within 12 days or faster.

It is not inconceivable that burial was delayed at least by a week or two. Transportation of the coffins to the cemetery would have been jarring, since the coffins were carried or placed in carts and traveled

[16] Interpretation is based on the nesting box tests. No studies on the actual temperatures inside coffins left in the sun or outside are available.

over uneven surfaces, displacing the remains within the coffin. This, combined with decomposition before interment, could explain the positioning of Burials 54, 56, 57, 58, and 61.

8.13 Cause of Death

Manner and cause of death could have also had a significant impact in the accelerated decomposition of the body after death (see internal temperature factors that accelerate decomposition, this chapter). Historical documents indicate inmates frequently died from heat stroke, malnourishment, extreme physical activity for extended periods of time, and disease (see Pathology, section 9.5). Many were shot and may have had resulting infections. Festering wounds, cuts, abrasions, and periostitis can result in fevers and provide additional entries for insects and maggots. All will increase the internal temperature of the corpse at the time of death (Zhou and Byard 2011, Dautartas 2009).

A search of the convict records, performed by Sandra Rogers, indicates 30 individuals died between 1888 and 1890 at Ellis Camp #1, accounting for 31.5% of the burials found at the Bullhead Camp Cemetery. These burials cluster in the eastern portion of the cemetery. From these records, five individuals died of “sun stroke” or congestion of the brain between 16 July and 24 July of 1889 (see Pathology, section 9.5). There is the potential that a prolonged exposure to high temperatures could increase an individual’s susceptibility to epidemic diseases or other diseases, especially those caused by poor living conditions such as dysentery. This cluster of deaths supports the hypothesis that other clusters of deaths could have occurred, burial of those individuals could have been delayed, and then multiple individuals could have been buried at once, representing Burials 54, 56, 57, 58, and 61.[17] Clusters of individuals could also have died as a result of the Great Flood of 1899 or the Hurricane in 1900, since only 54 convict records of the 95 individuals buried at Bullhead Camp Cemetery could be located (Sowell 1904).

8.14 Insects

Insects would have had access to the corpse. Time between death and placing a corpse in a coffin is unknown and insects could have invaded the corpse before being placed in the coffin. However, a coffin would not necessarily protect the corpse from insect activity. Blowflies (Dipetea: Calliphoridae) are known to lay eggs on zippers of suitcases (Bhadra, Hart, and Hall 2014). The larvae can pass through the gaps in the zipper and infest the corpse aiding in decomposition. Any gaps on the coffin edges would also provide access to the corpse. Evidence of blowfly access to the corpses before burial includes the presence of a single, fully-grown fly in the pelvic area of Burial 5, a few centimeters above the sacrum. The fly was still encased in the pupa, although it appears the fly died just before emerging from the pupa due to its development. This indicates remains were above ground long enough for flies to lay larva on the corpse. No other maggots, pupa, or fly remains were found in any other graves, a fact which may be the result of differential preservation.

[17] There is no conclusive link between the convict records and the individuals in these graves.

Testing is necessary to confirm this hypothesis. To date, no results from experiments on decay in coffins is available. Such testing would be instrumental in the study of archaeothanatology.

8.15 Empty Coffin

Grave 19 was an empty, hexagonal coffin (Figure 8.15). There was no evidence a corpse was buried inside. The coffin wood was well preserved, with the lid, sides, and bottom present. A thin layer of sand percolated through the lid and lay between the lid and the base of the coffin with no other sediment inside the coffin. A thin layer also lay directly on top of the lid. No remains were found inside the coffin and no evidence of dirt, bags, rocks, or heavy items being placed inside the coffin to give it weight were found. It is a conundrum why an empty coffin would be buried in this cemetery. The lack of evidence for additional coffin weights to hide the absence of a corpse leads to speculation of the involvement of those carrying the coffin and burying it, who may have known it was empty. Possibilities include the prisoners aiding in a prisoner's escape, a guard ordering an empty coffin be buried to cover a prisoner escape, etc. Unfortunately, we can only speculate.

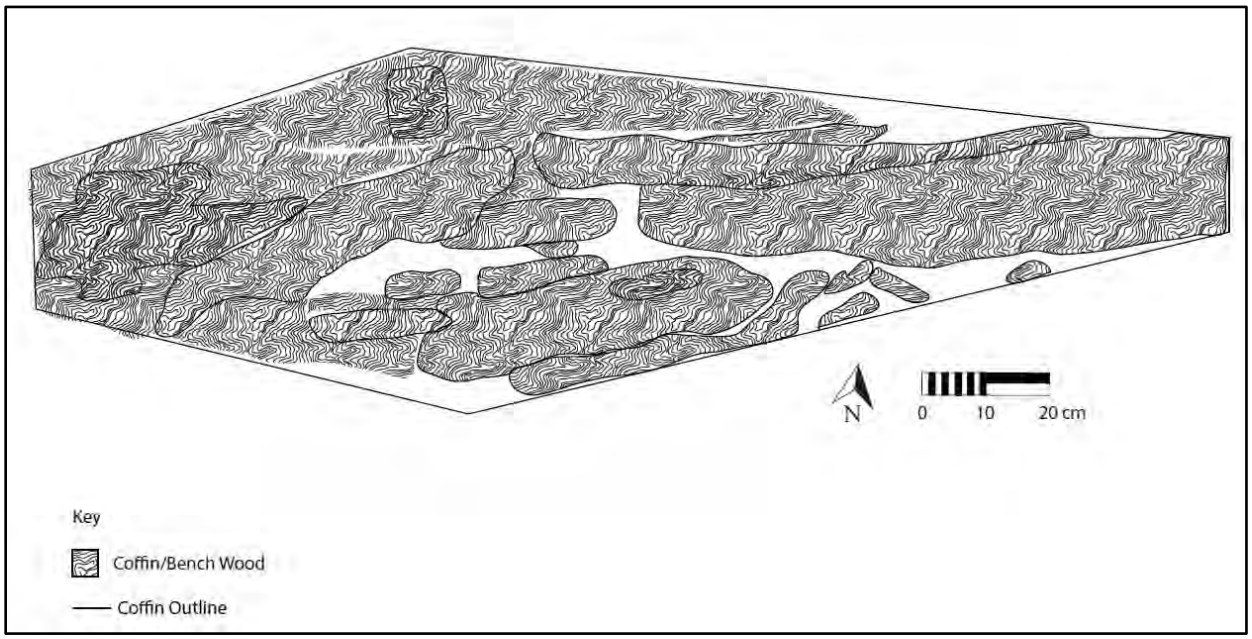


Figure 8.15: Burial 19 Sketch

8.16 Personal Effects and Burial Hardware

While the condition of the bone material recovered from the graves was, on average, well-preserved, the coffins and caskets used were in extremely poor condition. In some instances, at least some wood from the burial vessel was recovered. Nails from the burial vessels were recovered in every instance. The coffins and caskets were simple, lacking any sort of adornment. During the senate investigations of 1909, convict guard Sergeant R. J. Ritchie gave a first-hand account of the burial practices used at the outside convict labor camps, and at the Bullhead Camp Cemetery specifically (see Section 7.5.1). The testimony related that the caskets were simple pine boxes built in the convict camps of rough lumber (Report of the Penitentiary Investigating Committee, Evidence 1910:732). The convicts' names and numbers were painted upon a headboard as a funerary marker.

The senate testimony also shed light on the clothing in which the convicts were buried. Sergeant Ritchie stated that "…as a rule, always put on a clean suit [of clothes]. In some instances I have seen new suits put on; other instances, washed suits. Yes, sir; never seen but one buried in citizen's clothes." (Report of the Penitentiary Investigating Committee, Evidence 1910:732)

All of the burials were very spartan, as the most common grave good throughout the cemetery was clothing buttons. Clothing buttons recovered and cataloged were made from cow bone, mother-of-pearl, brass, steel, ceramic, milk glass, and a type of polymer, likely gutta-percha or Bakelite. Other clothing-related materials included four iron alloy buckles. Only one piece of jewelry was found in association with a burial, a simple copper band of the right fourth phalanx of Burial 96. A ceramic tobacco pipe was found in association with Burial 42. The pipe was a brown-slipped stoneware with a geometric molded design of embossed diagonal lines forming a chevron pattern from the mold line. For photographs of burial effects, see Appendix E.

8.17 Grave Orientation

The orientation of the grave shafts and bodies provides insight into the religious ideology of those performing the burial rites. The grave shafts were all dug in an east–west orientation with slight variations in the east–west axis. This may reflect the season an individual was buried (Bowen 2003). Burial with the head to the west and feet to the east reflects Christian tradition (O'Brien 2009; Jamieson 1995), although this may not fully reflect the traditions of the convict laborers themselves as they probably were not allowed to add personal traditions.

Not all individuals were laid with their head in a westerly direction. Of the 95 individuals, 74 were laid in a westerly direction, 15 in an easterly direction, and 6 with an unknown head direction. The aberration in orientation with heads to the east may be the result of a lack of attention to, carelessness, disregard, or mistake in marking the orientation of the body within the coffin. This resulted in burial with the head to the east. A link between body orientation and manner of death, such as disease, was not present. No individuals were buried face down.

8.18 Conclusions

Archaeothanatological analysis provides insight into the intentional behaviors associated with burial of deceased convict laborers at Bullhead Camp Cemetery. Grave orientation was based on Christian tradition with their feet facing to the east and head to the to see Jesus coming in the clouds when they rise from their grave at the time of the resurrection. Several others were buried with their feet to the west and head in the east of the coffin. One coffin was buried empty for unknown reasons. Some graves were dug either in a hurry or with no concern whether the bottom was flat and even. This resulted in disarticulation and jumbling of some skeletal elements within several burials.

It was also likely that corpses were placed in coffins and left to decay for a period before the coffin was buried. This was evident in five burials. Three individuals were buried in narrow coffins and two in wide coffins. Displaced and jumbled skeletal elements without uneven floors, evidence of shifting of the bottom panels of the coffin, and the low water table that did not inundate the burials all indicate and support decay before burial. Reasons for the delay in burial of the deceased is unknown but could be related to waiting for notification of the family and season.

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9.0 LABORATORY ANALYSIS OF REMAINS

9.1 INTRODUCTION

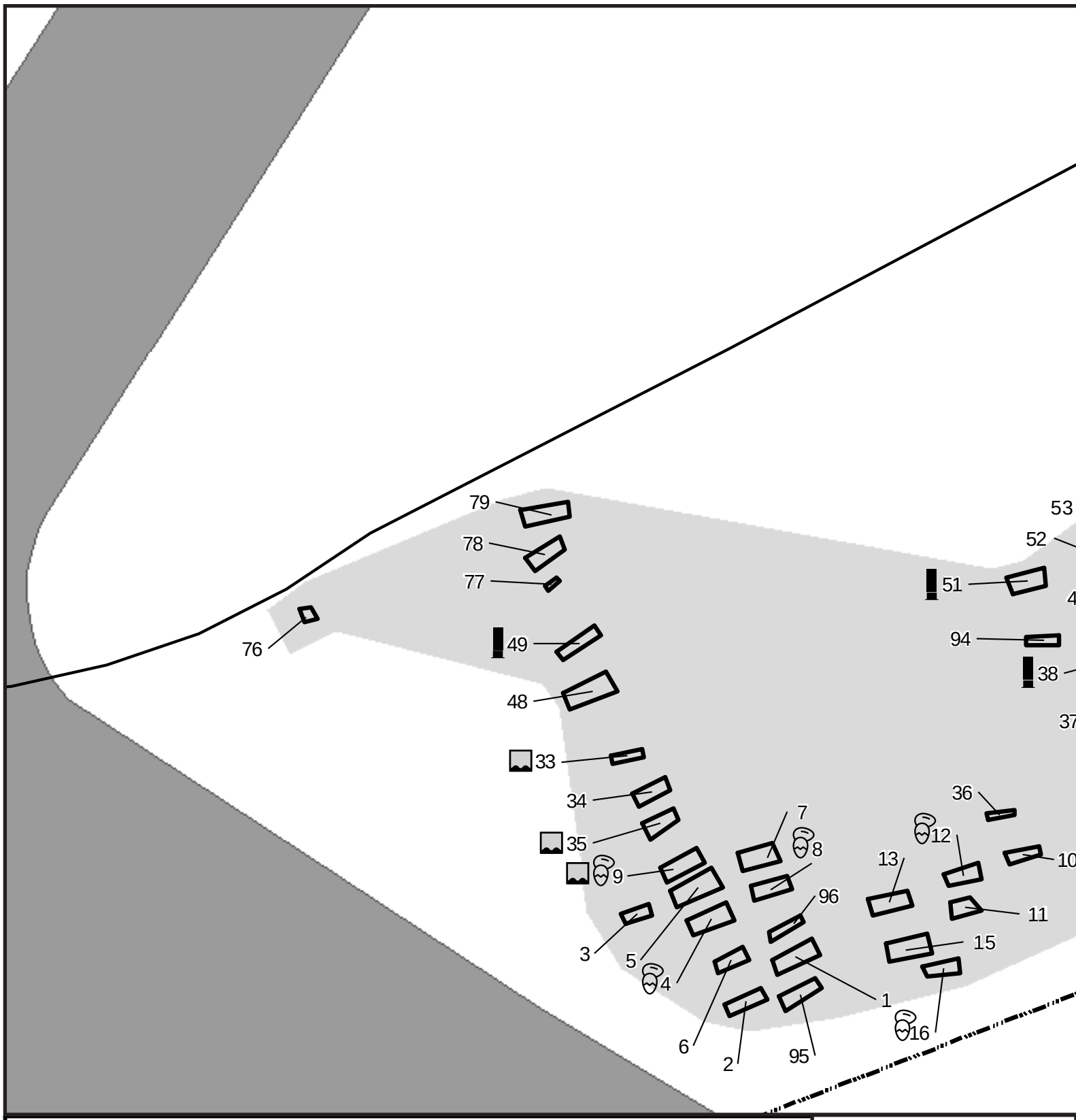
> "For the vast majority, no recording, writings, images, or physical descriptions survive. There is no chronicle of girlfriends, hopes, or favorite songs… [their] voice is almost entirely absent from the vast record of the era…The entombed there are utterly mute, the fact of their existence as fragile as a scent in the wind."
>
> -Blackmon 2008

The stories of those who are oppressed are often lost to history. Their stories are seldom told, and the depth to which the injustice occurred is only vaguely mentioned. The little known history of the convict labor system in Texas and across the south is such a topic. The extent of the mistreatment of prisoners and altered penal codes which created an environment where individuals were convicted on little to no evidence in order to produce a much-needed labor force for the state to rent is a subject rarely discussed (Perkinson 2010). As Blackmon (2008) stated, their story is almost completely lacking from the records of this era. The truth of the severity of the conditions under which they lived and died has only been told in recent books on the subject, such as *Slavery by Another Name (Blackmon 2008), Texas Tough* (Perkinson 2010), and *One Dies Get Another (Mancini 1996),* even though the convicts themselves told their story during interviews in the Report of the Penitentiary Investigation Committee (Texas, Special Committee on the Penitentiary 1909).

Bullhead Camp Cemetery is the first convict labor cemetery to be excavated. These individuals died while imprisoned during the earliest years of the convict leasing system in Texas. The excavation of this cemetery has provided us the humble opportunity to begin retelling their stories. The entombed at Bullhead Camp Cemetery are no longer mute. These are the first people who suffered the ultimate punishment from this unjust system. They were the first to experience the brutality, suffering, and injustice. We can tell their story and provide information on a shameful time in our history as a nation. We now give tribute to a people who were deemed to have no value, as evidence by the manner in which they were treated and died and hope to do justice in telling what bioarchaeological analysis has revealed about them.

The Bullhead Camp Cemetery presents an excellent example of the types of information that can be learned from a historic cemetery (Figure 9.1.1). In this chapter, we focus on the quality of life of the individuals during their childhood and during their incarceration at Bullhead Camp. This is explored through the study of the demographics of the cemetery, dental development, disease and health, skeletal manifestations, diet and malnutrition, trauma, cause of death, and evidence of biomechanical stress. When possible, comparisons of biological data with other cemetery populations are made to elucidate whether the Bullhead Camp Cemetery experienced the same rate and degree of conditions, such as lesions indicative of active metabolic stress, and to gain a better perspective on childhood stressors and trauma rates, particularly projectile trauma.

To perform the study, the bioarchaeological analysis team spent long days and countless hours carefully examining, measuring, reconstructing, and photographing skeletal remains, as well as



Topographic and landform information gathered from USGS Topographic Maps, Sugarland, Texas

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

0 10 20 Feet

0 5 10 Meters

Figure 9.1
Bullhead Camp
Cemetery Map
Fort Bend County, Texas

James Reese CTC
Fort Bend ISD

Gunshot Trauma

Amputee

Fused Carpals

DC Decomposition in Coffin Prior to Burial

Uneven Floor

Grave Shaft Outline

Legal Cemetery Boundary

Impervious Cover as of 12-20-2019

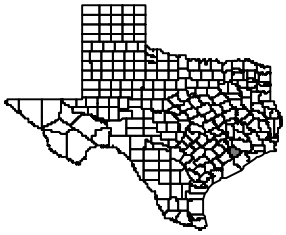
Historic Road

Modern Road

Water Ways

Historic Topographic Lines

Date: 2 June 2020



taking CT scans and radiographs. Reconstructions included crania, long bones, and even a complete torso to investigate gunshot wounds. The team was led by Dr. Catrina Banks Whitley, MA, RPA, PhD, the bioarchaeologist for the Bullhead Camp Cemetery project. Abigail Eve Fisher, MSc, MA, was the assistant bioarchaeologist. Duties were divided between the two for consistency on data collection and to streamline the procedures. Dr. Whitley was responsible for managing and training the burial and laboratory crews; removing remains from the graves; analyzing all skeletal remains, CT scans, and radiographs; and authoring this chapter on the bioarchaeological analysis. The assistant bioarchaeologist was responsible for removing remains from the graves, washing and rearticulating the skeleton for analysis, and reconstructing remains. She also took the initial inventory, coded osteoarthritis, coded degenerative joint disease, photographed rearticulated remains, photographed all teeth and individual elements for publication and records, casted individual elements with idiosyncratic developmental anomalies or significant pathologies, tracked excavation, managed washing crews, organized and performed quality control on osteological analysis paperwork, packed remains for storage, assisted the bioarchaeologist with recording measurements and research, and managed the temporary storage facility. X-Rays were taken by Abigail Fisher, assisted by Reign Clark, Nathan and Erin Palmer, and Jenilyn Saunders. CT scans were supervised by Dr. Whitley and Abigail Fisher. Gwen Bakke was also an assistant bioarchaeologist for several weeks whose main responsibility was photographing remains. She also assisted in rearticulating skeletal remains, taking the initial inventory on several burials, and washing remains. The crew responsible for cleaning the remains varied and mostly included archaeologists conducting excavations, with almost all of the excavation crew participating in washing the remains. Some of these individuals continued to wash remains after excavation of the cemetery was complete. These individuals included Petra Banks, Katie Kitch, Keith Faz, Jenna Battillo, and Reign Clark. Additionally, other individuals cycled through on a short-term basis to aid in this endeavor. These individuals included Sandra Rogers, Valerie Learman, Beth de la Garza, Mallory Miller, Jenilyn Saunders, and Diane Ralph.

9.2 Data Collection Methods: Sex, Age, Dentition, Pathology, X-rays, CT Scans

Data collection from osteological observations occurred in the laboratory setting, supplemented by observations in the field when required due to taphonomic and preservation issues. Osteological data collected followed the guidelines outlined in *Standards for Data Collection from Human Skeletal Remains* (Buikstra and Ubelaker 1994), which provides basic standard protocol for osteological analysis. Forms used for the analyses were modified from *Standards for Data Collection from Human Skeletal Remains* with additional observations designed by the bioarchaeologist.

Skeletal remains analyses were performed by the bioarchaeologist and assistant bioarchaeologist. Osteological observations performed by the team are listed in Table 9.2.1. The bioarchaeologist estimated sex, age, and ethnicity; analyzed pathology, trauma, and musculoskeletal stress markers; took cranial and post-cranial measurements, non-metrics, dental measurements and morphology; noted taphonomic changes; and made additions to observations on osteoarthritis and degenerative joint disease.

The assistant bioarchaeologist rearticulated the skeleton, reconstructed remains, took the initial inventory, coded osteoarthritis, coded degenerative joint disease, photographed rearticulated remains, and photographed all teeth and individual elements for publication and records. Observations were completed by the team member assigned for consistency in data collection. This chapter will outline the methodology for each of these analyses.

Table 9.2.1: Osteological Observations/Estimations Performed by Bioarchaeology Team

Analysis	Analyst
Field assessments	Bioarchaeologist
Taphonomic assessment	Bioarchaeologist
Skeletal Inventory	Assistant Bioarchaeologist
Sex and Age Assessment	Bioarchaeologist
Ancestry Estimation	Bioarchaeologist
Dental Inventory/Pathology (visual)	Assistant Bioarchaeologist
Dental Inventory/Pathology	Bioarchaeologist
Dental Morphology	Bioarchaeologist
Cranial Measurements	Bioarchaeologist
Post-cranial Measurements	Bioarchaeologist
Non-metric traits	Bioarchaeologist
Pathology and Trauma	Bioarchaeologist
Degenerative Joint Disease	Assistant Bioarchaeologist
Spinal Osteophytosis	Assistant Bioarchaeologist
Entheseal Markers	Bioarchaeologist
Stature	Bioarchaeologist

9.2.1 Field and Taphonomic Assessments

In-field assessments were performed when the bioarchaeologist deemed the data may be lost during extraction. All in-field assessments were performed by the bioarchaeologist. These included sex, ethnicity, cranial and post-cranial measurements, and pathological observations. Taphonomic assessments included archaeothanatological observations (e.g. coffin size), decomposition observations (e.g. insect activity), post-depositional intrusions (e.g. roots, rodents, etc.), and post-depositional destruction (e.g. destruction by backhoe).

9.2.2 Skeletal Inventory

Skeletal inventories for each individual included a visual and coded assessment. Visual recording forms included skeletal inventory, which included information on presence of the element, taphonomy, pathology, trauma, or other items of note. All elements coded followed the same key: f = 1-25% present, P_1 = 25-50% present, P_2 = 51-75% present, C = 76-100% present, and / = missing/absent and was modified from *Standards for Data Collection from Human Skeletal Remains* (Buikstra and Ubelaker 1994). Cranial elements were each coded individually (e.g. frontal, palatine, sphenoid), and separated left and right accordingly. Teeth were counted according to number and condition, differentiating deciduous and permanent.

Postcranial elements were inventoried either by element group, individual element, or by segments of an element. Ribs were counted as a group, sorted by side, and counted based on rib facets; the degree of completeness of ribs was noted. Vertebrae were recorded mostly by group, with cervical vertebrae 3–6, thoracic vertebrae 1–9, and lumbar vertebrae 1–4 assessed by number present and completeness. All other vertebrae were assessed independently. The sacrum and coccyx were similarly grouped together. Metatarsals; hand sesamoids; foot sesamoids; proximal, medial, and distal hand phalanges; and foot phalanges were grouped together by side and assessed for overall completeness.

All carpals, tarsals, and both patellae were assessed individually for completeness. Pelvis and shoulder elements were also assessed individually. Additional observations on certain elements were also included, such as the temporal mandibular joints/articular surface on the temporal bones, the glenoid on the scapula, and the pubic symphysis on the pubis. Long bones were coded for five separate locations: proximal epiphysis, proximal diaphysis, middle diaphysis, distal diaphysis, and distal epiphysis. Each were assessed for completeness.

9.2.3 Sex Estimation

Sex estimation of the individuals relied mainly on the os coxae and cranial diomorphic features. These observations derive from Buikstra and Ubelaker (1994) and include observations on attributes in the subpubic region, such as the ventral arc of the pubis and the greater sciatic notch. Cranial morphology attributes included the nuchal crest, mastoid process, supraorbital margin, prominence of glabella, and the mental eminence. For each individual, as many possible observable attributes were scored, with attributes deemed more reliable indicators given greater weight, such as os coxae morphology (Buikstra and Ubelaker 1994). To estimate the sex, each attribute was coded as undetermined sex = 0, female = 1, probable female = 2, ambiguous = 3, probable male = 4, and male = 5. An overall assessment of the scores determined sex estimation. The bioarchaeologist estimated sex for all individuals, even those with unfused epiphyses, because the youngest individuals in this population were in their middle to late teens and the os coxae were fully fused.

In several instances, the skull and os coxae were unavailable for observation recording because they were missing, or the areas required for scoring were damaged. In these instances, sex estimations were scored from alternative post-cranial measurements, most frequently the humeri and femora. For the humerus, the bioarchaeologist used humeral head measurements and measurements of the articular and bicondylar widths using regression formulae for black individuals from France (1983, 1985, as cited in Bass 2005) as well as univariate data from Bongiovanni and LeGarde (2018). Measurements of the femur included the vertical diameter of the head and midshaft circumference. Thieme (1957, as cited in Bass 2005) calculated data for the femoral head diameter to determine sex. Individuals defined as female had femoral head diameters below 43.64 millimeters and males above 44.42 millimeters. Individuals between 43.64 millimeters and 44.92 millimeters were indeterminate. Post-laboratory analysis checked sex estimation via post-cranial measurements against the discriminate function equations developed for the Freedman’s Cemetery by Condon et al. (1998) and Spradley and Jantz’s (2011) sex estimations utilizing data from the Forensic

Anthropology Database. More weight was given to the Condon et al. (1998) formulae because the Freedman's cemetery population is contemporaneous with the Bullhead Camp Cemetery population.

9.2.4 Age-at-death Estimation

Age at death was estimated for adults using observations on morphological traits of the pubic symphysis, auricular surface, acetabulum, and late fusing skeletal elements including medial clavicle fusion, iliac crest, and sacrum body fusion. Adult age-at-death estimations from this cemetery relied most heavily on auricular surface observations, as they were generally better preserved than other observable age changes.

Very few pubic symphyses were available and/or suitably preserved for age estimation. If present, greater weight was given to the pubic symphyseal changes. Methodology for pubic symphysis standards followed Buikstra and Ubelaker (1994), which utilized the Todd (1921a, 1921b) and Suchey-Brooks (Brooks and Suchey 1990) methods. Auricular surface changes were evaluated using features identified by Lovejoy et al. (1985). ADBOU (Version 2.1, developed by Boldsen, Milner, and Hylleber and modified by Ousley 2002, www.ADBOU.dk), which utilizes transition analysis, was used as a secondary method for estimating age-at-death.

Fusion of the medial clavicle was recorded when observations were available, using the scoring system devised by Webb and Suchey (1985). This system estimated age for individuals between the late teens to late 20s, with complete fusion supporting an age of over 24 years and complete fusion of the iliac crest resulting in an estimated age-at-death of over 30 years.

In many instances, the medial clavicle and/or the iliac crest was either not available for observation, damaged, or pathological changes were present on the surface, preventing use for age estimates andneither the pubic symphysis, the auricular surface, or the clavicle were available for observation. Under these circumstances, age-at-death was estimated via morphological changes in the sacrum or acetabulum. Age-at-death estimations using the sacrum were calculated following Passalacqua (2010). Passalacqua (2010) designed a method to estimate age-at-death by making seven observations of the fusion of the S2/S3 sacral vertebral body and S1/S2 fusion, apical changes of the sacral auricular surface, surface changes on the sacral auricular surface, S1 vertebral ring fusion and absorption, and presence of microporosity and macroporosity. Changes in the acetabulum were used to estimate age when other methods were not available; methods are from Stull and James (2010) and Calce (2012).

Age-at-death estimates were recorded according to the age estimated from the auricular surface, knowing the brackets should be wider. Osborne (2004) suggests expanding the age brackets based on a system that collapses the Suchey-Brooks method eight categories into six, however these age ranges are very large ; 1= ≤27, 2=≤46, 3=≤69, 4=20-75, 5=24-82, 6=29-89 and averages 1=21.1, 2=29.5, 3=42, 4=47.8, 5=53.1, and 6=58.9. Similarly, the age ranges for transition analysis are wide.

In addition, occupation and heavy labor can affect morphology of the auricular surface, since it is a weight-bearing location, influencing the chronological age by prematurely aging the individual compared to the biological age (Magee 2007), similar to the effects of obesity, which increases

loading and joint movement (Wescott and Drew 2015). Expanding the age-at-death categories to 15-20, 20-35, 35-50, 50-50, and 60+ was considered in order to take the overestimation into consideration; however, a skew toward older ages was still present, probably due to the influence of heavy labor.

Juveniles and individuals estimated to be in their late 20s and younger were all aged by tooth development and epiphyseal closure. Dental eruption data, following Ubelaker (1979) was primarily used to estimate age-at-death. Crown, root, and apex formation were scored when observable, following Moorees et al. (1963; cited in Schaefer, Black, and Scheuer 2009 and Buikstra and Ubelaker 1994). Epiphyseal closure was coded as 0 = no union, 1 = partial union, and 2 = complete union following Buikstra and Ubelaker (1994). For vertebrae and post-cranial remains (e.g. proximal femur, proximal humerus, distal humerus), fusion times were estimated based on the relationship of fusion of primary ossification centers and epiphyseal union to chronological age for males. These were charted, and then the age was calculated based on the minimum and maximum range for all epiphyseal closures observed. Charts from Buikstra and Ubelaker (1994); Baker, Dupras and Tocheri (2005); and Schaefer, Black, and Scheuer (2009) provided chronological age ranges for epiphyseal closures.

The age used to calculate age-at-death profiles used the lowest age in the estimate, so 50 is used for 50–55, 35 is used for age estimated 35–45, etc., since the Suchey-Brooks method overestimates the age of the younger individuals (Martrille et al. 2007). Individuals were then placed in 5 year age bracket starting at 10 years of age through 65+ (Table 9.2.2).

Table 9.2.2: Age Range Categories

Category #	Age Range	Example of Ages Placed in Categories
1	10-14.9	9-15
2	15-19.9	16-18,18-21
3	20-24.9	20-25, 20-27
4	25-29.9	25-30, 24-30
5	30-34.9	30-35
6	35-39.9	135-39, 35-40, 35-45
7	40-44.9	35-50, 40-50
8	45-49.9	45-55
9	50-54.5	50-59
10	55-59.9	55+

Category #	Age Range	Example of Ages Placed in Categories
11	60-64.4	60+
12	65+	65+
13	Adult	Fusion of skeletal elements and teeth indicates the individuals is an adult
14	Unknown	Condition of remains prevent age estimation

9.2.5 Ancestry Estimation

Ancestry estimation assists the bioarchaeologist in individualizing skeletal remains. It narrows the possibilities of who is buried in a cemetery by identifying the geographic ancestry of the individuals, even though traits are continuous and not discrete (White and Folkens 2005). Ancestry was estimated using metric and non-metric observations. Non-metric observations included observations of traits on the cranium such as slope, shape, and width of the inferior nasal aperture, shape of the interorbital breadth, orbital shape, palate shape, nasal bone shape and contour, chin shape, and mandibular lower border directionality (Angel and Kelly 1990; Rhine 1990; Hefner and Linde 2018).

Metric observations of cranial and post-cranial skeletal elements were also entered in to Fordisc 3.1.313 if few non-metric observations were available or if the non-metric observations were ambiguous. Baker, Gill, and Kieffer (1990) also provided estimation of ancestry through the measurement of the intercondylar notch of the distal femur. Maximum notch height was measured on a flat surface, with the metric sectioning point as 33 millimeters between white and black males; black males' maximum notch height is greater than 33 millimeters.

9.2.6 Dental Inventory/Pathology

Dental data were recorded on forms modified from Buikstra and Ubelaker (1994). Deciduous and permanent teeth were recorded on separate forms and included visual observations and measurements. Dental inventories for each skeleton included a visual and metric assessment. Dental visual recoding forms included coding of each tooth and associated bone (mandible or maxilla), caries, staining, dental calculus, hypoplasia, wear, and other observations. Dental disease and hypoplasia were also observed under the boom microscope to confirm the presence of differential conditions. A digital microscope was used to take photographs of pathology, trauma, and other skeletal changes of interest.

Visual and inventory recording forms included observations regarding calculus deposit location, linear enamel hypoplasia, tooth presence and condition, wear, abscesses, alveolar resorption, periodontitis, and dental caries. Instances of hyperdontia were documented by drawing additional teeth and adding additional columns to the measurements and morphology forms. In these instances, the duplicate tooth was given a secondary label (e.g. PM_{2-2}) in the visual form to be tracked throughout the document.

Dental measurements included crown mesial/distal diameter, crown bucco-lingual diameter, crown height, length of tooth if not fully formed, and enamel defects/dental hypoplasia. Instances of linear enamel hypoplasia were coded by tooth, defect color, defect type, and measured from the cementoenamel junction to the greatest extent of the hypoplasia. Enamel hypoplasia were observed and identified macroscopically, microscopically with a boom microscope, and under a bright light. In most instances, measurements were taken while observing with the boom microscope to ensure the farthest point of the dental hypoplasia was accurately identified. Teeth with multiple dental hypoplasia were recorded individually. If the hypoplasia was wide, the width of the defect was also recorded. Age at occurrence for dental hypoplasia was calculated using new regression equations and methods (Henriquez and Oxenham 2018).

9.2.7 Dental Morphology

Dental morphology was collected on a separate form, with individual forms for deciduous and permanent morphology following Buikstra and Ubelaker (1994). Each tooth was assessed for a series of morphological observations as well as the root number and any congenital absence. Incisors were assessed for winging, labial curve, shoveling (single and/or double), interrupt groove, and tuberculum dentale. Canines were assessed for shoveling, tuberculum dentale, accessory cusps and ridges, and enamel extension. Premolars were assessed for shoveling, accessory cusps and ridges, tricuspid morphology, odontome, lingual cusps, and enamel extension. Molars were assessed for groove pattern; deflecting wrinkle; mesial trigonid crest; distal trogonid crest, protostylid; cusps 5, 6, and 7; and enamel extension.

9.2.8 Metric and Non-Metric Observations

Measurements of dentition, cranial and post-cranial measurements, and measurements of pathological lesions and musculoskeletal stress markers when necessary were completed. These measurements were taken with the following instruments when appropriate: digital sliding calipers, Paleo-Tech field osteometric board, and spreading calipers. All remains were observed under bright light and under a boom microscope. Pathological changes and trauma were observed under a high-magnification microscope to confirm texture changes and to look at edges on the pathology or trauma.

The 34 possible cranial measurements are outlined by Buikstra and Ubelaker (1994). However, crania from Bullhead Cemetery were rarely articulated well enough to acquire most of these measurements. Measurements 26–34 as outlined in Buikstra and Ubelaker (1994) were taken on both left and right sides. Post-cranial measurements include measurements 35–80 as outlined in Buikstra and Ubelaker (1994) but also 12 measurements on the talus outlined by Abd-Elaleem et al. (2012), and six measurements on the patella outlined by Introna et al. (1998). The height and breadth of the glenoid of the scapula and the articular breadth of the humerus were also measured. Fifty-one non-metric traits were taken following Buikstra and Ubelaker (1994). Some of these observations were also used for age, sex, and ancestry determinations as outlined above.

9.2.9 Pathology

Pathologies were first noted on a checklist modified from Buikstra and Ubelaker (1994). This form lists possible pathological categories for the cranial, appendicular, axial skeleton, and the

extremities. Additional pathologies and trauma were listed on this form. All pathological changes noted on the checklist were then discussed, drawn, and measured as necessary and possible on subsequent pages. All pathological changes and trauma were also recorded on the visual skeletal inventory form. When necessary, due to complicated trauma and pathology patterns, additional skeletal visual forms that showed individual elements were used for more detailed recording of trauma and pathology observation. All skeletal remains were inspected under a 10x or higher boom stereomicroscope and under bright light.

9.2.10 Degenerative Joint Disease and Spinal Osteophytosis

Degenerative joint disease (DJD) was assessed following the stages of degenerative joint disease outlined by Ubelaker (1999). Joints of the cranium, shoulder, hip, knees, elbow, wrist, ankles, and digits were assessed, as well as the rib and vertebral articulations. Codes used were ‘a’ for normal articular surface, ‘b’ for small deposits on articular margins, ‘c’ for small pits, ‘d’ for polishing/eburnation, ‘e’ for other. The degree of DJD observed was further described with ‘+’ for extensive incidences, and ‘-’ for minor incidences. Extensive cases were generally also photographed.

Spinal osteophytosis was evaluated similarly to DJD, but on a visual form. Incidences of osteophytes, compression fractures, Schmorl’s nodes, deformities, and buttressing were all noted. Grades of deformity generally followed the stages of DJD and osteophytosis outlined by Ubelaker (1999) using the same coding system outline for DJD analysis. Additionally, codes used were ‘OP’ for osteophytes, ‘SN’ for Schmorl’s nodes, ‘CF’ for compression fractures, and ‘BT’ for buttressing. Deformities were further coded by grades 1 to 3 (mild to severe) and shape (Wedge, Biconcave, Crush).

9.2.11 Entheseal Changes

Entheseal changes were reported on a form designed by the bioarchaeologist following methods outlined by Hawkey and Merbs (1995) with modifications suggested by Molnar (2006). Molnar notes the stress and resorptive lesions represent a continuous scale (Table 9.2.3). Observations were made on at least 28 attachment sites from the cranium, mandible, clavicles, humeri, scapulae, radii, ulnae, hand phalanges, metacarpals, femur, ilium, ischium, patella, tibia, fibula, calcaneus, and toe phalanges.

Table 9.2.3: Entheseal Change Scoring Method

osteophytic formation (OF)	0 = absence of exostotic formation
	1 = minima exostosis (<1mm)
	2 = clear exostosis (1-4mm)
	3 = substantial exostosis (>4mm)
	NR/- = trait not recordable
osteolytic formation (OL)	0 = absent
	1 = presence of fine porosity (holes <1 mm diameter)

	2 = diffuse porosity, with holes ca. 1 mm in diameter/presence of small area of erosion (ca. 4mm length or diameter)
	3a = presence of several small areas of erosion (ca. 4mm in length or diameter)
	3b = at least one extensive and deep osteolytic area (>4mm in length or diameter)
	NR/- = trait not recordable

9.2.12 Stature

Stature estimates were calculated from regression formulae in Trotter and Gleser (1952, 1958) for African Americans. This method was chosen because it was also used by Condon et al. (1998) and Tiné (2000) to calculate stature on individuals excavated from the Freedman's Cemetery in Dallas, Texas, 41DL316, which was a historical African-American cemetery in use between AD 1869 and 1907. The Freedman's Cemetery is an ideal comparative population because it was contemporaneous to the Bullhead Cemetery and was also located in Texas. Stature estimations were calculated using formulae by Trotter (1970; in Steele and Bramblett 1988) to allow this study to be comparable, since they are used by numerous other studies. The Trotter (1970) estimates are slightly shorter than the Trotter and Gleser (1952, 1958) estimates.

These stature estimations do not include stature reduction due to age. Stature estimates were weighted by lowest standard error. Lower limbs correlate with stature more highly then upper limbs, thus preference for stature estimations were given to stature estimates using the femur and tibia and secondarily estimates based on the femur alone. If lower limb measurements were not available, stature estimates were calculated on the humerus, radius, or ulna.

9.2.13 X-Rays and CT Scans

All remains with significant pathological changes and trauma were radiographed and/or CT scanned for further analysis. Radiographs allowed better definition and differential diagnosis capabilities because the internal aspects of the pathology or trauma could be identified. CT scans also assisted with differential diagnosis. The purpose of CT scanning was also to retain a 3D representation of significant pathological and trauma skeletal anomalies and complete skulls, with the potential to conduct facial reconstruction on complete skulls. X-rays were taken on 2 and 3 November 2019 at Stafford Oaks Animal Hospital due to a generous donation. CT scans were taken on September 15, 2018 at Houston Methodist Sugar Land Hospital, likewise due to a generous donation.

9.3 DEMOGRAPHICS

9.3.1 Introduction

This chapter presents the biological analysis of the individuals buried at Bullhead Camp Cemetery, including age-at-death, sex, and stature of the individuals buried at Bullhead Camp Cemetery. The excellent preservation of the remains and teeth provide a significant amount of information regarding their life experiences. However, the unique demography of Bullhead Camp Cemetery makes it difficult to compare to other cemetery populations in age-at-death and sex distributions.

Demography is the study of birth and death patterning and a means of identifying whether a population was able to successfully adapt to the location and circumstances under which they lived (Rose 1992). With demography, age-at-death models are typically used to look at the rates of death in each age-at-death category to determine the patterns of stressors that shorten or lengthen the lives of the individuals in a community. Adaptation, however, requires the freedom of a single community to control one's environment. In the case of Bullhead Camp Cemetery, it is not possible to perform a traditional demography study because the individuals interred there are from across the state, were raised in other states and moved to Texas at some point in their lives, are differentially selected to work on the farm prison camps, and are not in control of their environment such as nutrition, amount of food consumed, healthcare, etc. Additionally, the individuals also did not have control over the number of hours they worked, time off to recover from illness, sanitary conditions, or type of housing. Finally, these individuals were also subjected to whippings, mistreatments (Blackmon 2009), and sometimes killed (see Section 7.6). Therefore, instead of a traditional demography study, the pattern that will be elucidated is the range of ages at which individuals died at the camps.

Traditionally, sex estimates provide information on differential death ratios of children, men, and women, investigating if certain populations had a propensity for more males than females to perish at certain ages. These types of age-at-death comparisons are not applicable because the conditions facing most cotemporary communities are vastly different than the environment and treatment the individuals at Bullhead Camp Cemetery endured, as noted above. Therefore, comparisons will focus on stature estimates since stature estimate comparisons will provide information regarding any potential selective choices based on height for those being sent to the Bullhead Camp. These comparisons can also elucidate if the average stature of the individuals buried at Bullhead Camp Cemetery are taller, shorter, or of similar stature than other skeletal populations from free black cemeteries in the south.

9.3.2 Age-at-death

Age-at-death estimates on the individuals buried at Bullhead Camp indicate individuals from their young teens to older adults died at the camps. Some individuals could not be aged due to the absence of skeletal elements necessary to determine age. Assigning individuals to age-at-death ordinal categories for comparisons and reporting can alter the group numbers and rates reported. I present two methods for reporting age-at-death groups in which individuals were assigned to show how the data can be skewed, forcing an individual into a category that can potentially lose data about the individual, such as a wider age-at-death estimate (Buckberry 2015, Milner and Boldsen 2012).

The first ordinal category method uses the youngest age-at-death estimate for each individual. The individual, based on the youngest age-at-death estimate, is then placed in a 5-year age category based on the youngest age. For example, individuals assigned an age 30-40 would be placed in the 30-35 age group. The age-at-death profile, based on the youngest age-at-death estimate, is characterized by the high number of individuals dying under the age of 30; representing 45% of all estimated age-at-deaths. As age increases, the number of individuals in each bracket decreases, with the 30-40 age bracket accounting for 22 individuals and 23% of the estimates, 40-50 with 11

individuals and 11% of the estimates, 50-60 with 9 individuals and 9% of the estimates. Three individuals were estimated to have an age-at-death between 60-65 years at death, representing 3% of the estimates (Figure 9.3.1). The second is based on assigning individuals to a 5-year age category based on the mean of the years of the estimated age range; individuals with an estimated age range of 30-39 were placed in the 30-35 category. As Figure 9.3.2 shows, the differences are highlighted most in the 20-25 and 25-30 year categories and the older age categories in the 50-60 year range. The median age category places more individuals in the late teen category of 15-20 years than the youngest age-at-death, while more individuals are in the 55-60 year age group in the median age group. Using the youngest age-at-death estimated increases the number of individuals in the 20-25 age category and decreases the 25-30 age category by shifting more individuals into the 20-25 age category. The same pattern is seen in the 50-55 and 55-60 with more individuals being shifted to the 50-55 age category. The middle age group, 30-50 years, varies little between the methods.

Dividing individuals into ordinal categories is useful because it elucidates the expression of biological age, where some individuals show degenerative changes earlier than other individuals in a population (Buckberry 2015). For further comparative analyses, I chose to use the youngest age-at-death ordinal category since the median age category skewed the older age groups due to a wider estimated age-at-death range.

Seven individuals could be classified as adults based on the epiphyseal fusion of long bone fragments but could not be given more specific age estimates due to a lack of skeletal elements necessary to refine the age (Figures 9.3.1 and 9.3.2). One burial, Burial 97, did not have sufficient skeletal elements and epiphyseal components to estimate any age and could only be defined as indeterminate; it was impossible to tell if the individuals was in their mid-late teens or even an older adult. Burial 76 contained remains of an individual aged between 13 and 15 years with dentition ranging between 13.5 and 18.5 years due to complete apex development of the second molar; however, the burial was disturbed with only a few skeletal fragments present.

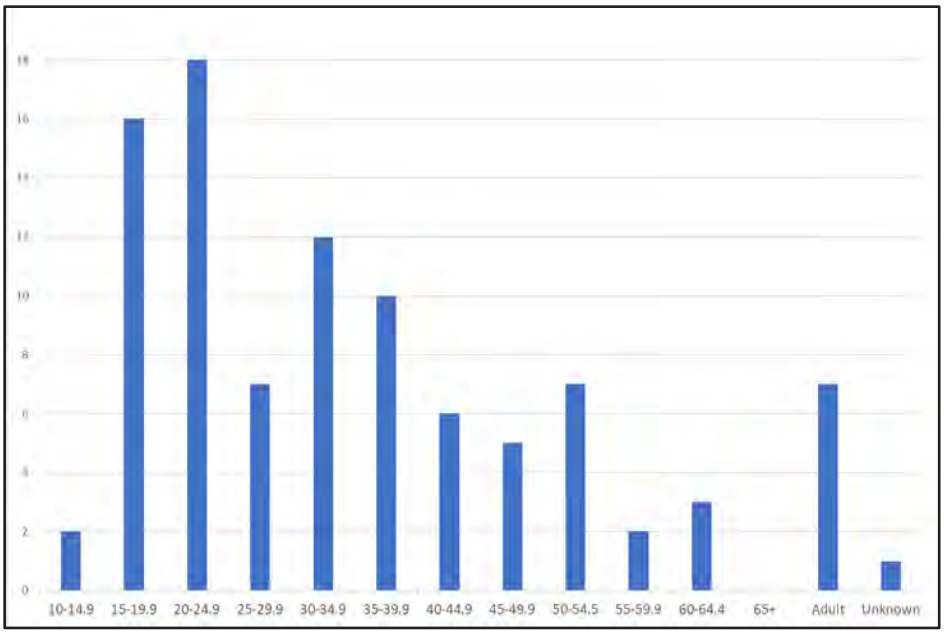


Figure 9.3.1: Estimated Age-at-Death Based on Lowest Estimated Age

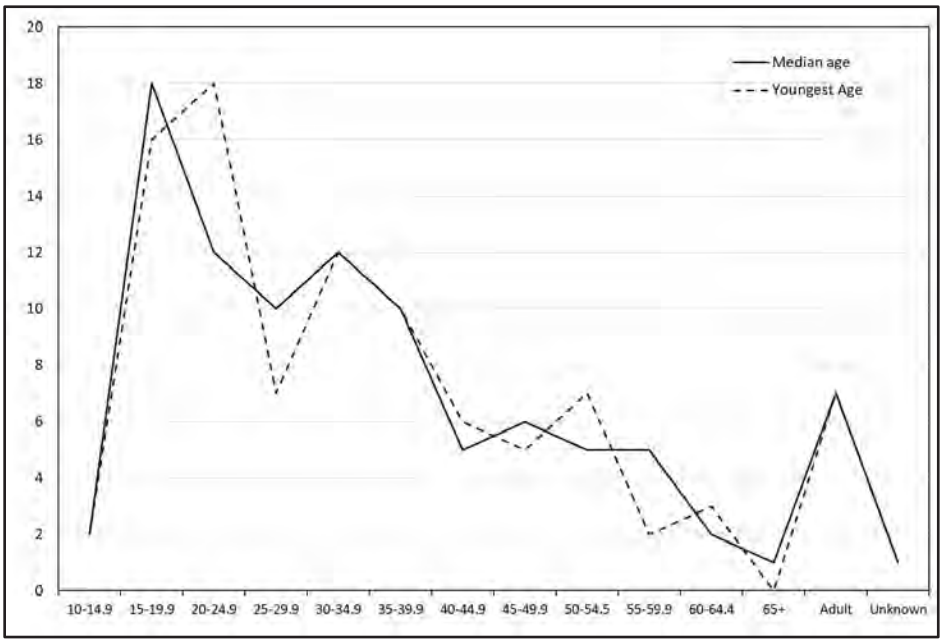


Figure 9.3.2: Age-at-Death Categories Based on Median and Youngest

9.3.2.1 Age Estimates

Transition Analysis[18] was completed on 36 individuals as a secondary means of calculating age estimates in addition to those outlined in Buikstra and Ubelaker (1994). Individuals with age

[18] Transition Analysis was calculated using the ADBOU software (2002, www.sdu.dk; downloaded from http://statsmachine.net/software/ADBOU2/),

estimates from all age ranges above 20 years were included in the estimates. The ADBOU estimates did not include all individuals because the program could not be accessed until the middle of analysis.

Table 9.3.1 lists ADBOU corrected age-at-death estimates at the 95% probability. Each burial has the ADBOU lower 95% estimate, upper 95% estimate, maximum likelihood estimate, and age-at-death estimate from the methods in Buikstra and Ubelaker (1994). ADBOU estimates tend to correlate well with the age-at-death estimates on the lower 95% numbers for all age estimates. Upper 95% estimates tend to correlate well with individuals aged under 30 years but are overestimated in older individuals as the age range widens. For example, the age-at-death range for Burial 26 is 35-45 years, but the ADBOU age range is 32.7-88.4 years with a median age of 68.1. Maximum likelihood estimates follow a similar pattern with the estimate generally falling within the age-at-death estimates for those under 30 years and significantly overaged for those over 35, with most in the 60s and up. The 30-35 age-at-death age range had varying results, with some in their 20s (Burial 18 had a maximum likelihood of 26.1) and some in their 70s (Burial 35 had a maximum likelihood of 72.9). The maximum likelihood estimation from ADBOU is highly unlikely to represent the true age of the individuals who were 30 years and older in the Bullhead Camp, since the historic prison records indicate there were very few individuals over the age of 60. There are no records on the number of individuals in each age group that were sent to the Bullhead Camp, but it can safely be assumed they did not send large numbers of elderly individuals for sugarcane production due to the availability of younger individuals and the physical demands required (Figure 9.3.3). As Barrett and Blakely (2011) state, sugarcane labor is “one of the harshest and dangerous labor systems due to the physical demand required for long days planting and harvesting”.

Table 9.3.1: ADBOU Age Estimates and Age-at-Death Range Estimates

Burial #	ADBOU Age Estimate Corrected			Age-at-death Estimate
	L_95%	Maximum Likelihood	U_95%	Age Range
2	26.1	26.1	56.3	25-29
6	19.9	25	31.4	20-30
10	28.9	65.7	87.5	35-45
11	15	15	23.2	22-27
12	22.5	29.5	39	25-30
15	15	15	28.6	19-23
16	26.9	26.9	49.4	25-30
18	26.1	26.1	45.6	30-35
26	32.7	68.1	88.4	35-45
29	36.4	70.6	89	30-39
31	49.7	76.5	91.3	50-59
33	37.5	73.6	90.5	45-55
34	24.4	24.4	44.2	24-30
35	26.3	72.9	90.7	30-35
36	15	15	28.5	21-29

Burial #	ADBOU Age Estimate Corrected			Age-at-death Estimate
	L_95%	Maximum Likelihood	U_95%	Age Range
38	55.2	78.7	92.2	50-59
42	49.2	77.9	92.1	40-50
45	51.8	79.3	110	55+
47	56.2	78.6	92	50-70
48	50.7	78.1	92.3	49-77
51	67	84.2	110	60+
52	15	15	28.2	20-28
53	59.8	81.6	110	60+
56	50.4	76.1	90.9	50-60
58	61.7	81.9	110	60+
67	21.8	21.8	41.1	25-30
68	67.8	84.1	110	55-65
72	15	15	27.7	17-22
73	43.6	76.8	91.1	40-50
74	46.7	76.1	91.4	35-39
79	52.5	77.6	91.8	50-70
81	15	15	28.5	20-28
83	40.1	74.4	90.6	40-45
92	26.6	26.6	49.7	30-35
95	31.6	31.6	58.6	30-39
97	30.5	30.5	66.6	30-39

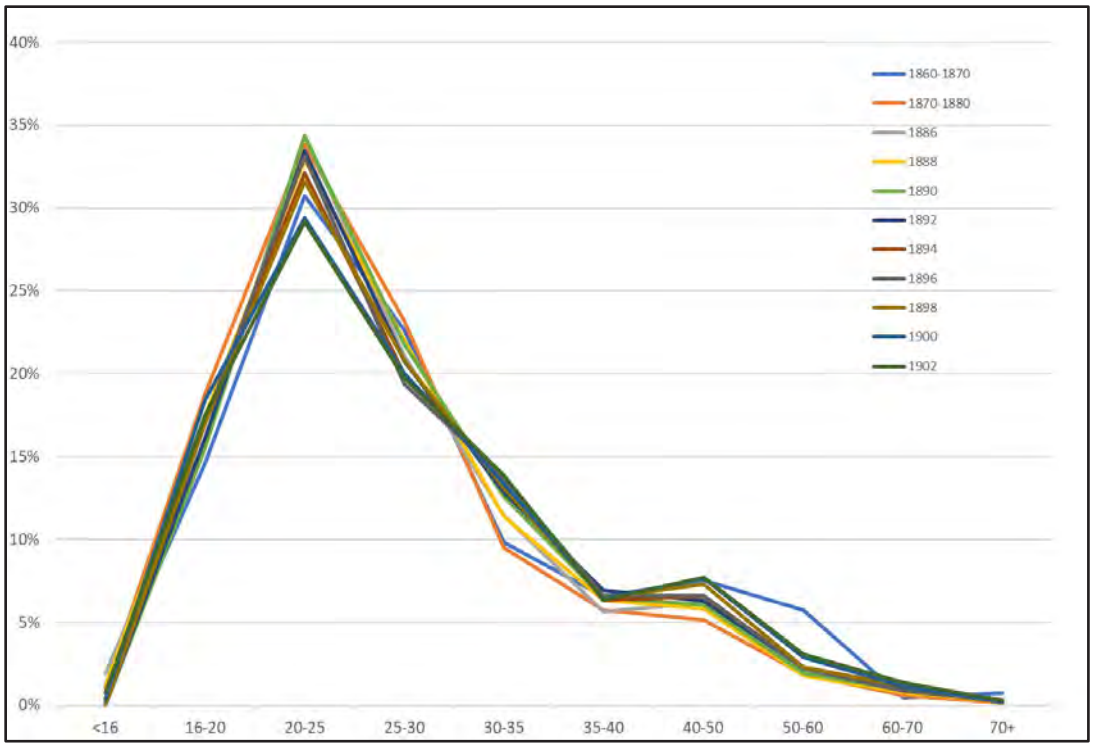


Figure 9.3.3: Number of inmates in prison according to the Texas Penitentiary Reports 1884-1902

9.3.3 Sex

Estimating the sex of the individuals buried in a cemetery provides the first insight into the composition of the cemetery. The sex ratio provides insight as to whether it is a community cemetery, which is comprised of children (who are unable to be sexed), males, and females, rather than comprised of the majority of one sex or only children. Generally, the number of males and females buried in a cemetery used by a community should contain nearly equal numbers of males and females, such as at the Freedman's Cemetery, which contained 278 males and 288 females (Tíne 2000), or Cedar Grove Historic Cemetery, which contained 15 males, 21 females, and 44 children (Rose and Santeford 2006).

The Bullhead Camp Cemetery population was estimated to be an almost exclusive male group. Six individuals could not be assigned to a sex category, three individuals were probable males, one individual was a probable female, one individual was a female, and 86 individuals were males (Table 9.3.2). Sex characteristics of the individuals, particularly features of the innominates, were distinctly male in most individuals. For example, the greater sciatic notch was narrow, sometimes narrower than the most male classification, or a level 5. Some cranial characteristics were more gracile than robust, such as the supra orbital margin, but scored as indeterminate.

The two individuals estimated as female were from disturbed burials with few skeletal elements present, which were fragmentary. These individuals were not assigned an age other than "adult" because the long bones were fragmentary, and those with epiphyses present were fused. Burial 84

was estimated as a probable female based on the biepicondylar width of the distal humerus, measuring 59 millimeters. Only one measurement useful for sex identification could be taken. Calculations based on France (1983) classifies this individual as female using formulae from both black and white categories. FORDISC estimates this individual to be a black female. Alternately, when using the Nubian formulae from France (1983), the individual scores as a male and when using Thieme (1957), the individual scores indeterminate. Thus, this person was classified as a probable female. Sex estimates were calculated for 97 individuals because of the few disturbed burials and isolated bone fragments.

Burial 80 was classified as a female. Several skeletal elements useful for estimating sex were able to be measured. The proximal tibia was 70 millimeters, the tibia circumference was 88.5 millimeters, and the femoral circumference was 78 millimeters. The proximal tibia breadth measures 70 millimeters, classifying this individual as a female, with the sectioning point at 74.82 and average female mean at 70.14 millimeters for black females (Symes and Jantz 1983; as cited in Bass 2005). Tibial circumference is 88.5 millimeters, which is well below the Symes and Jantz (1983) sectioning point for all ethnicities listed. FORDISC classifies this individual as a black female when using all three measurements.

The composition of the individuals buried at Bullhead Camp Cemetery indicate this is not a community cemetery. Based on the sex profile, it is comprised of individuals from a specifically chosen segment of the population. The location of the cemetery on Bullhead Camp and the almost completely male population supports the assertion that this is, indeed, a cemetery for those that died at Bullhead Camp.

Table 9.3.2: Sex Estimation of Bullhead Camp Cemetery

Sex	No.
Male	86
Possible Male	3
Female	1
Possible Female	1
Indeterminate	6
Total	97*

*Two disturbed burials contained additional remains, but it is unclear from where they originated.

9.3.4 Stature

Stature was calculated for all individuals whose epiphyses were fused or had femora or tibiae from which segment measurements could be collected. Formulae with the smallest standard error were used, followed in order of least to greatest standard error and preference to lower limbs, as recommended by Trotter and Gleser (1958). Upper limb bones were only used when bone preservation prevented the ability take measurements from the femur, tibia, and/or fibula. Segment analysis of the tibia and femur were used if no other measurements were available and only accounts for three of the stature estimates (Table 9.3.3). Formulae for estimated stature from segment measurements was utilized with estimates derived from formulae requiring multiple segments by

Steele (1970, cited in Steele and Bramblett 1988). Estimated long bong length using segment analysis were not entered into the Trotter and Gleser (1958) formulae to calculate stature estimates.

The statures of 88% of the individuals excavated at Bullhead Camp Cemetery (n=83) could be calculated. No female statures could be calculated. The average stature of the population was 173 centimeters (5'8"). Statures calculated one standard deviation below the average stature ranged from 160.5 centimeters (5'3") to 182.2 centimeters (6'0") and one standard deviation above 167.9 centimeters (5'6") to 189.5 centimeters (6'2") (Table 9.3.3). Five individuals were estimated to be 182.2 centimeters (6'0") tall or taller, one of which was in their early teens, while seven individuals were 180 centimeters (5'11") tall. Most individuals ranged in height from 168 centimeters (5'6") to 5'9" (Figure 9.3.4).

Table 9.3.3: Stature Estimates at Bullhead Camp Cemetery by Individual

Burial	Stature (cm)	Range		Inches	Feet	Inches
		Low	High			
2	173.4	169.2	177.6	68.3	5	8
4	177.3	173.6	180.9	69.8	5	10
5	169.5	165.3	173.7	66.7	5	7
6	166.3	162.6	170.0	65.5	5	5.5
7	173.3	169.6	177.0	68.2	5	8
8	178.3	174.6	182.0	70.2	5	10
9	174.6	170.9	178.3	68.7	5	9
10	172.3	168.6	175.9	67.8	5	8
11	184.0	180.3	187.7	72.4	6	0
12	173.4	169.5	177.4	68.3	5	8
13	169.3	165.6	173.0	66.7	5	7
15	170.4	166.7	174.0	67.1	5	7
18	174.7	171.0	178.4	68.8	5	9
21	180.0	176.0	183.9	70.8	5	11
22	185.8	182.2	189.5	73.2	6	1
23	176.5	172.5	180.4	69.5	5	9
25	175.3	171.6	178.9	69.0	5	9
26	169.2	165.5	172.8	66.6	5	7
27	170.8	166.6	175.0	67.2	5	7
28	173.8	170.1	177.4	68.4	5	8
29	171.2	167.5	174.8	67.4	5	7
30	169.5	165.5	173.4	66.7	5	7
31	168.0	164.3	171.7	66.1	5	6
32	166.6	162.9	170.3	65.6	5	6

Burial	Stature (cm)	Range		Inches	Feet	Inches
		Low	High			
33	168.6	164.9	172.3	66.4	5	6
34	177.0	173.3	180.7	69.7	5	10
35	170.5	166.9	174.2	67.1	5	7
36	164.6	160.9	168.2	64.8	5	5
37	174.6	170.9	178.3	68.7	5	9
38	169.4	165.7	173.1	66.7	5	7
39	180.1	175.3	184.8	70.9	5	11
40	180.2	176.5	183.9	70.9	5	11
41	176.5	172.8	180.2	69.5	5	9
42	175.2	171.2	179.1	69.0	5	9
43	167.8	163.9	171.7	66.1	5	6
45	168.5	164.8	172.2	66.3	5	6
46	166.9	163.2	170.5	65.7	5	6
47	167.5	163.9	171.2	66.0	5	6
48	176.1	171.9	180.3	69.3	5	9
49	179.7	175.5	184.0	70.8	5	11
50	172.0	168.1	175.9	67.7	5	8
51	171.7	168.0	175.4	67.6	5	8
52	164.2	160.5	167.9	64.6	5	5
53	180.1	176.4	183.8	70.9	5	11
54	182.5	178.6	186.4	71.8	6	0
55	175.3	171.6	178.9	69.0	5	9
56	171.8	167.9	175.7	67.6	5	8
57	174.7	171.0	178.4	68.8	5	9
58	174.3	170.4	178.2	68.6	5	9
59	171.7	168.0	175.4	67.6	5	8
60	174.2	170.5	177.9	68.6	5	9
61	165.2	161.5	168.9	65.0	5	5
62	172.6	168.9	176.3	68.0	5	8
63	180.0	176.3	183.6	70.9	5	11
64	169.9	166.0	173.8	66.9	5	7
65	169.4	165.7	173.1	66.7	5	7
66	170.3	166.4	174.2	67.0	5	7
67	175.3	171.4	179.2	69.0	5	9
68	168.6	164.7	172.5	66.4	5	6
69	174.2	170.5	177.9	68.6	5	9

Burial	Stature (cm)	Range		Inches	Feet	Inches
		Low	High			
70	166.7	162.8	170.6	65.6	5	6
71	182.3	178.1	186.6	71.8	6	0
73	169.9	165.7	174.2	66.9	5	7
74	178.7	175.0	182.4	70.4	5	10
75	170.1	166.2	174.0	67.0	5	7
76	168.8	164.6	173.0	66.5	5	6
77	185.0	181.0	189.0	72.8	6	1
78	175.8	171.8	179.7	69.2	5	9
79	173.9	170.2	177.6	68.5	5	8.5
81	171.9	168.2	175.6	67.7	5	8
82	179.0	175.3	182.8	70.5	5	10
85	166.6	162.9	170.3	65.6	5	6
86	170.8	166.8	174.7	67.2	5	7
88	180.0	175.8	184.3	70.9	5	11
91	173.1	169.4	176.7	68.1	5	8
92	167.3	162.5	172.0	65.8	5	6
93	167.1	163.2	171.1	65.8	5	6
94	172.4	167.6	177.1	67.9	5	8
95	173.8	169.6	178.0	68.4	5	8
96	168.6	164.7	172.5	66.4	5	6
97	170.7	166.8	174.6	67.2	5	7
101	168.9	165.2	172.6	66.5	5	6
83/87	170.5	166.6	174.4	67.1	5	7
Average	173.0	169.1	176.8	68.1		
Standard Error						
Humerus	Ulna	Humerus and Ulna	Femur	Tibia	Femur and Tibia	Segment Analysis
4.23	4.74	4.23	3.91	3.96	3.68	3.72

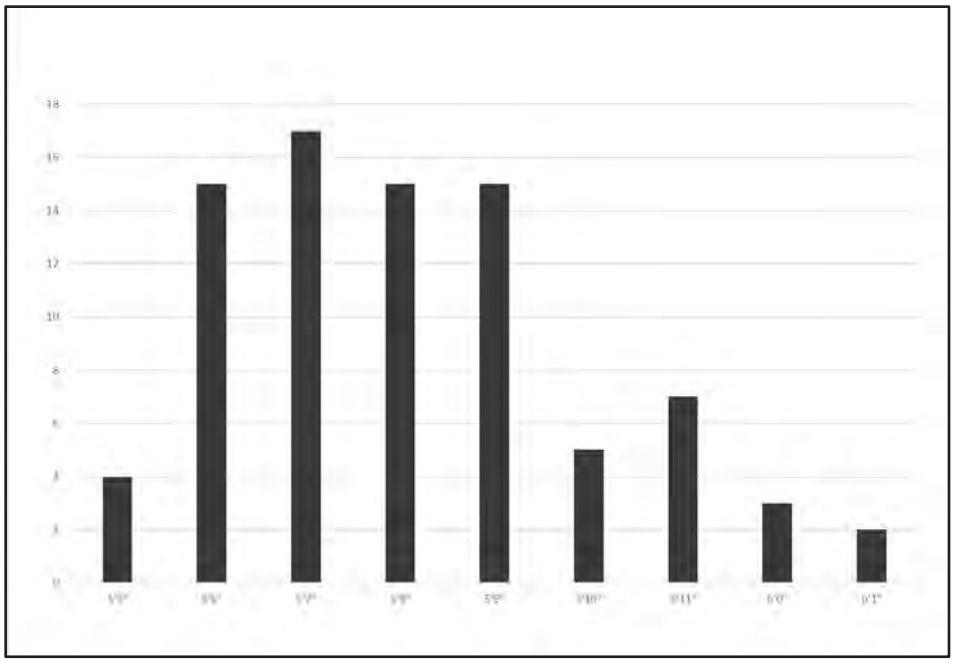


Figure 9.3.4: Stature Estimates for Bullhead Camp Cemetery

9.3.5 Stature Comparisons

Comparisons of stature can elucidate if the average stature of the individuals buried at Bullhead Camp Cemetery are taller than, shorter than, or of similar stature to other skeletal populations from free black cemeteries in the south. Male average stature from Bullhead Camp Cemetery is compared with males excavated from Third New City Cemetery, a predominately black city cemetery in Houston, Texas (1850s/1880-1910, Derrick and Steele 1999, cited in Tiné 2000), the Freedman's Cemetery, Dallas, Texas (1869-1907, Tiné 2000), and Cedar Grove Cemetery, southwest Arkansas (1890-1927, Rose 1985). The average stature for males is 166.1 centimeters (n = 15) at the Third New City Cemetery, 171.9 centimeters (n = 88) at the Freedman's Cemetery, and 177.9 centimeters (n = 14) at the Cedar Grove Cemetery. The numbers of observable individuals for the Third New City Cemetery and the Cedar Grove Cemetery are small, which probably drives the large discrepancy in the average statures. However, comparison with Freedman's Cemetery, which has a large number of observable individuals (n = 88), shows the statures are similar (Table 9.3.4). Given the similarity to the population at Freedman's Cemetery, it is unlikely any preference based on stature was used when selecting individuals to be sent to the L.A. Ellis convict labor camp and that the overall stature mean is similar to a population from the same time period.

Table 9.3.4: Mean Adult Stature for Bullhead Camp Cemetery and Comparison Sites

Cemetery	N	Average Male Stature (cm)	Source
Bullhead Camp Cemetery	83	173.0	
Freedman's Cemetery	88	171.9	Tiné 2000
Cedar Grove Cemetery	14	177.9	Rose (1985)
Third New City Cemetery	15	166.1	Derrick and Steele (1999; as cited in Tiné 2000)

N= number of observable individuals

9.4 LIFE AND DEATH

Human skeletal remains provide a record of an individuals' life. Social, economic, and environmental conditions result in biological responses that leave changes on the bone (Crist 1995, Larsen 1997), including responses to diet and nutrition, activity and occupation, disease, and trauma. Studies of changes in human skeletal remains and dentition provide information not available in historic documents and can expand on any historical knowledge regarding the social and economic conditions under which individuals survived. This section will focus on the interpretation of the life history of the individuals buried in Bullhead Camp Cemetery using analyses on human skeletal remains.

Biocultural interpretations are limited due to the unique composition of the population buried at Bullhead Camp Cemetery. Historic records indicate the incarcerated individuals from across the state of Texas were sent to the prison camp. Further, the nativity of those individuals varies, from Texas to as far as Canada, represented by 10 states and three countries (see Chapter 7.6). Thus, the social and environmental conditions faced by each of these individuals can vary significantly preventing comparisons. In addition, it is difficult to separate some skeletal changes caused by incarceration on the prison camp from previous health, pathology, and trauma without knowing how long each individual stayed on the farm. The amount of time spent at the Bullhead Camp ranges from a few days to several years, with most dying in less than a year of arriving (see Chapter 7.6). Different analyses elucidate data on different aspects of an individual's life history. Some analyses will elucidate evidence of perimortem trauma, pathological changes, and musculoskeletal changes, while other data provide info on childhood stressors, diet, and health.

9.4.1 Pathology Dental

Dental changes, in the form of dental caries, hypoplasia, wear, periodontitis, and presence and frequency of dental enamel hypoplasia provide information on diet and health. First, dental caries, abscess, and antemortem tooth loss will be analyzed to investigate evidence of types of food consumed, although it will not necessarily represent foods consumed at Bullhead Camp. Next, dental calculus rates are explored as additional investigation into the composition of foods consumed as well as dental wear. Finally, dental hypoplasia will be calculated to discuss general health during childhood to teen years.

Dental caries, or less formally named cavities, are characterized by defects in the enamel structure of the dentition caused by bacterial fermentation of sugars (Larsen 1997). Dental caries size range from small pinpoint dark areas to a large manifestation destroying the majority of the tooth. They can occur on any surface of the tooth, including the occlusion, mesial and distal surfaces, root, and cemento-enamel junction just below the gum line. Each tooth has a different susceptibility to dental caries and occur in greatest frequency on the occlusal surfaces of molars (Hillson 2002). The consumption of certain types foods and the manner in which the food is prepared affect incident rates of dental caries. Softer foods, such as cornbread, refined sugars, or processed foods result in higher rates of caries while increased consumption of meats and vegetables will decrease the rates due to coarser foods' ability to clean surfaces (Larsen 1997, Buikstra and Ubelaker 1994, Roberts

and Manchester 1995). Dental caries frequencies should increase in older age groups, particularly in a population with little to no preventative dental care.

Dental abscesses are identified by a hole in the alveolar bone exposing the tooth root. Abscesses result from tooth enamel cracks, spontaneous trauma, or as a complication of dental caries (Buikstra and Ubelaker 1994, Hillson 2002) developing after infection infiltrates the alveolar area causing subsequent pulp chamber inflammation and pus accumulation at the root apex of the tooth. If left untreated, a dental abscess will result in the creation of a drainage channel that extends from the tooth root through the alveolar bone providing a means for the accumulating pus to drain. Complications from dental abscesses may quickly spread, causing serious complications such as brain abscess, septicemia, shock, and cavernous sinus thrombosis, and may occasionally lead to death (Shweta and Prakash 2013).

Tooth loss before death, or antemortem loss, can result from severe caries and abscesses, trauma, and is associated with aging (Fujita 2013). If the antemortem loss is related to caries or abscesses, it can occur in younger individuals prone to dental disease due to their diet and life history. Other pathological processes leading to antemortem loss include extreme tooth wear with pulp exposure, alveolar resorption caused by periodontitis, and heavy calculus, which is responsible for the majority of tooth loss (Hillson 2002).

9.4.1.1 Frequencies

Dental caries rates were calculated by prevalence, caries rates by individual, and the diseased missing index, using Prowse (2011) formulae. Caries rates measure the number of incidents of caries per individual per number of teeth present. Caries rates are calculated using the formula:

$$\text{rate} = \frac{\text{\# carious teeth x 100}}{\text{\# of teeth present}}$$

The diseased missing index controls the impact antemortem tooth loss due to dental disease will have on observations of caries rates. The diseased missing index is calculated using the formula:

$$\text{diseased missing index} = \frac{\text{(\# carious teeth + \# teeth lost antemortem)}}{\text{(\# observable teeth + \# teeth lost antemortem)}}$$

Since antemortem tooth loss is associated with aging, dental caries, abscesses, and the loss of teeth before death would obscure the effect of dental caries on overall dental health. Greater antemortem loss in a population would reflect lower overall caries rates altering interpretations on food consumption and dental care. The diseased missing index provides a more robust interpretation because it includes all affected teeth.

A total of 2,220 teeth were analyzed. An additional 35 teeth were missing antemortem, totaling 2,256 teeth that could be scored (if antemortem loss is counted as scorable). Only 1.55% of all scorable teeth were lost antemortem. As expected, dental caries rates trend upwards with an increase in age (Table 9.4.2). Dental caries rates should reflect the increase, however the number of individuals in

each age category decreases as age increases, potentially skewing the rates due to small sample sizes. A similar trend is seen through the diseased missing index, except for the 35-39.9 and 60-64.4 age groups, whose rate is higher for the diseased missing index over the caries rate due to the addition of antemortem loss. Dental caries rates and the diseased missing index are almost identical because there is low antemortem tooth loss. As expected, molars show the highest number of dental caries of all tooth types, with a total of 238 molars with dental caries, and abscesses located at the molars totaling 29 (Figure 9.4.1 and Table 9.4.2).

Table 9.4.1: Number of Individuals with Dental Caries and Abscesses

Age Group	No. with Teeth	No. without Caries	No. with Caries	No. with Abscess	% of Age Group		% of Total Population	
					Caries	Abscesses	Caries	Abscesses
10-14.9	2	2	0	0	0%	0%	0%	0%
15-19.9	14	6	8	3	57%	21%	10%	4%
20-24.9	18	5	13	4	72%	22%	15%	5%
25-29.9	4	2	2	1	50%	25%	2%	1%
30-34.9	11	4	7	0	64%	0%	8%	0%
35-39.9	10	4	6	4	60%	40%	7%	5%
40-44.9	6	2	4	1	67%	17%	5%	1%
45-49.9	5	1	4	2	80%	40%	5%	2%
50-54.5	7	3	4	3	57%	43%	5%	4%
55-59.9	2	0	2	1	100%	50%	2%	1%
60-64.4	3	0	3	2	100%	67%	4%	2%
Adult	2	1	1	0	50%	0%	1%	0%
Total	84	30	54	21				

Table 9.4.2: Caries Rates, Diseased Missing Index, and Averages of Caries and Abscesses by Tooth

			Average No. Caries				Average No. Abscesses			
	Caries Rates	Diseased Missing	Incisors	Canines	Premolars	Molars	Incisors	Canines	Premolars	Molars
10-14.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-19.9	9.5	9.5	0.1	0.1	0.6	1.8	0.1	0.0	0.1	0.1
20-24.9	11.2	11.2	0.2	0.0	0.5	2.8	0.0	0.0	0.2	0.4
25-29.9	6.8	6.8	0.0	0.0	0.1	1.0	0.3	0.1	0.3	0.1
30-34.9	10.8	11.2	0.0	0.1	0.6	2.0	0.0	0.0	0.0	0.0
35-39.9	15.1	16.7	1.0	0.1	1.1	3.0	0.0	0.0	0.5	0.6
40-44.9	15.9	15.9	0.0	0.0	0.5	4.2	0.0	0.0	0.2	0.2
45-49.9	11.4	13.6	0.4	0.4	0.4	2.8	0.0	0.2	0.4	0.6
50-54.5	9.5	10.0	0.0	0.0	0.3	2.7	0.0	0.0	0.1	0.4
55-59.9	21.0	21.0	0.0	0.0	1.5	5.5	0.0	0.0	0.5	0.5
60-64.4	30.3	39.4	1.7	1.0	2.0	7.0	0.3	0.0	0.7	1.3

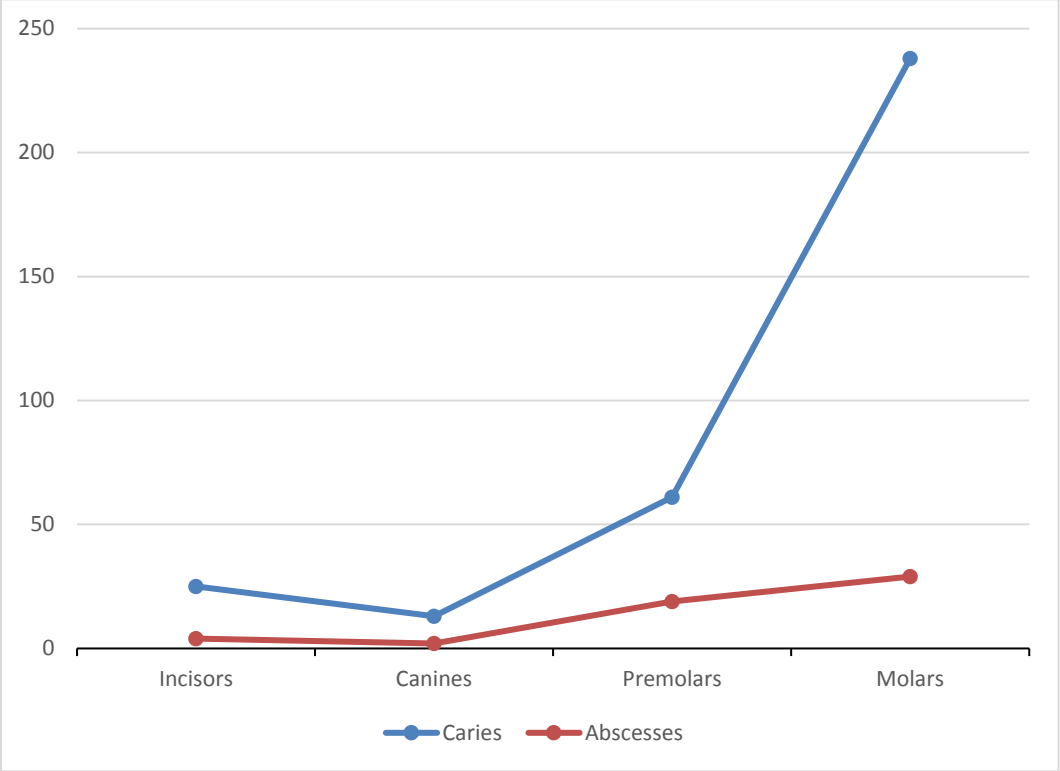


Figure 9.4.1: Average Number of Caries and Abscesses per Tooth

Prevalence rates of caries indicates 64% (n=54) of all individuals with teeth had at least one dental carious lesion. When partitioned by age group, prevalence rates of caries is high, with age-at-death having little impact in the percentage of individuals exhibiting at least one carious lesion (Table 9.4.1). More than 50% of each age group, except 10-14.9 years, exhibited at least one carious lesion. The prevalence rate does not account for the severity or the number of dental caries per individual. The larger number of individuals within the 15-19.9 and 20-24.9 age categories and their almost ubiquitous prevalence of dental caries in the group likely skewed the data, which likely explains why they have the highest percentages of incidences of dental caries in respect to the total population (10% and 15% respectively).

At least one abscess is present in 25% (n=21) of the individuals buried at Bullhead Camp Cemetery (Table 9.4.1). When compared to the percentage of the age group with abscesses, it is clear that the percentage of individuals with at least one abscess increases with age, except in the 30-34.9 and 40-44.9 age categories. However, the number of individuals within each category is small. Abscesses are more prevalent near the premolars and molars than the anterior teeth (Table 9.4.2).

9.4.1.2 Dental Calculus

Dental calculus is the build-up of plaque which coats the teeth as a clear biofilm (Yaussy and DeWitte 2018). Plaque mineralizes into a hard, brown colored deposit becoming the archaeologically visible dental calculus (Roberts and Manchester 1995). Dental calculus increases with a softer diet due to

refined flours, sugars, poor oral hygiene, or increased carbohydrate consumption allowing plaque to accumulate (Hillson 2002). Dental calculus contains identifiable plant and other food remnants thus providing an additional method for researching food types that were being consumed (Power et al. 2018). It is also a good source of aDNA from humans, bacteria, and animals (Mann et al. 2018, Preus, Marvik, Selvig and Bennike 2011).

Overall, there was a high frequency of the presence of dental calculus for individuals at Bullhead Camp Cemetery , with 83% (n=68) of individuals with observable teeth having at least one tooth with minor calculus deposits (Table 9.4.). Average scores for incisors and molars indicate there are heavier deposits on the incisors than molars in most age groups, although deposits do not consistently increase with age. The average score for calculus deposits is lowest in the 60-64.4 (0.20) and 15-19.9 (0.28) age groups. This is not unexpected as younger individuals are less likely to have developed calculus deposits and antemortem tooth loss was present in the 60-64.4 age group. Surprisingly, the third lowest rate was in the 35-39.9 age group at 0.37, although 80% of this group had some degree of dental calculus buildup (Table 9.4.).

Dental calculus scores (Table 9.4.) are based on the number of individuals with at least one tooth in the calculus score category (n=68). Calculus deposit scores are calculated independently. Heavy deposits (score 3) were present in 19 individuals, 37 individuals had at least one tooth with medium calculus deposits (score 2), and 64 had at least one tooth with minor calculus deposits (score 1). Four individuals had deposits that were at least medium to heavy with no minor calculus deposits.

Table 9.4.3: Dental Calculus Frequencies, Average Occurrences, and Score Rates by Age

	N	Calculus	%	Average Incisors[b]	Average Molars[b]	Average Score[c]	Score 1[a]	Score 2[a]	Score 3[a]
10-14.9	2	2	100%	0.86	0.30	0.44	1	1	1
15-19.9	14	10	71%	0.51	0.22	0.28	9	4	3
20-24.9	17	15	88%	0.57	0.44	0.43	15	7	3
25-29.9	4	3	75%	1.01	0.92	0.83	3	2	1
30-34.9	12	11	92%	0.76	0.64	0.65	10	6	2
35-39.9	10	8	80%	0.30	0.42	0.37	8	4	3
40-44.9	6	4	67%	0.76	0.59	0.80	4	4	1
45-49.9	5	4	80%	1.23	0.79	0.90	3	3	3
50-54.5	6	5	83%	1.17	0.66	0.80	5	3	2
55-59.9	2	2	100%	1.14	0.44	0.69	2	2	0
60-64.4	3	3	100%	0.26	0.27	0.20	3	1	0
Adult	1	1	100%	0.33	0.00	0.40	1	0	0
Total	82	68	83%				64	37	19

[a] Number of individuals with at least one tooth with the calculus score

[b] Average calculus deposit for the tooth type for all teeth in the age group

[c] Average calculus score for all teeth in the age group

9.4.1.3 Dental Wear

Dental wear is the process of losing occlusal tooth enamel. As food is chewed, the activities of using the anterior teeth to bite or prepare food for masticatory reduction in the molars result in the wear of the occlusal surfaces of teeth. Types of food we consume, their consistency, texture, and preparation effect the severity of wear (Larsen 1997). Rough textured foods, tough foods, or foods with preparation techniques that introduce grit or abrasives, such as stone-ground flours, will promote tooth wear acting as sandpaper grinding the tooth surfaces during mastication, while highly refined foods and soft foods will not. Dental wear increases with age because dental enamel does not remodel (Brothwell 1981). However, patterns, rates, and extent of wear varies distinctly between populations based on differences in food composition, preparation choices, and cultural practices (Larsen 1997, Mays 2002). Tooth wear from cultural practices include habits such as pipe smoking, grooves from producing utilitarian items, such as fish nets, rope and sewing, and occupation, such as notching from holding tack and nails in the teeth, among other activities (Capasso, Kennedy, and Wilczak1998).

Tooth wear scores for each individual are calculated by summing the scores for each tooth type divided by the number of observable teeth for each tooth type (Prowse 2011). Using this calculation prevents overestimating the score for individuals with a larger number of observable teeth. Incisors, canines, and premolars are scored on a scale from 1 to 8, with 8 representing the complete loss of the tooth crown. Each molar occlusal surface is scored independently on a scale from 1 to 10 and then all molars are summed with an overall possible scored ranging from 4 to 40 (Buikstra and Ubelaker 1994). Wear was assessed for all teeth with complete occlusal surfaces unless dental caries or damage prevented observation.

A wear score was averaged for each age group by tooth type. Average tooth wear per tooth by age group increases with age across all teeth, particularly in the incisors (Figure 9.4.2). However, there is a smaller increase in average molar wear as age increases, but standard deviations indicate wear in molars is similar for individuals over 30 years, except in the 35-39.9 and 45-49.9 age groups (Table 9.4.4).

9.4.1.4 Dental Enamel Hypoplasia

Incidents of dental enamel hypoplasia indicate periods of stress during childhood, such as malnutrition and/or illnesses. These defects develop during childhood as dental enamel is forming as dental enamel is sensitive to elevated level of cortisone which inhibits secretion of the enamel matrix resulting in a deficiency in enamel matrix (Lewis 2007; Goodman and Rose 1990). Hypoplastic defects are observed on the enamel surface, usually the labial or buccal side, manifesting as lines, pits, or grooves (Roberts and Manchester 1995). Hypoplasia are excellent indicators of childhood stress because occurrences provide an age at which health insults and stresses occurred (Lewis 2007). Stress episodes resulting in hypoplasia have been linked to famine, infectious disease, malnourishment, and weaning (Gerber 2014; Miszkiewicz 2015; Goodman and Rose 1990; Lewis 2007; Orellana-González et al. 2020).

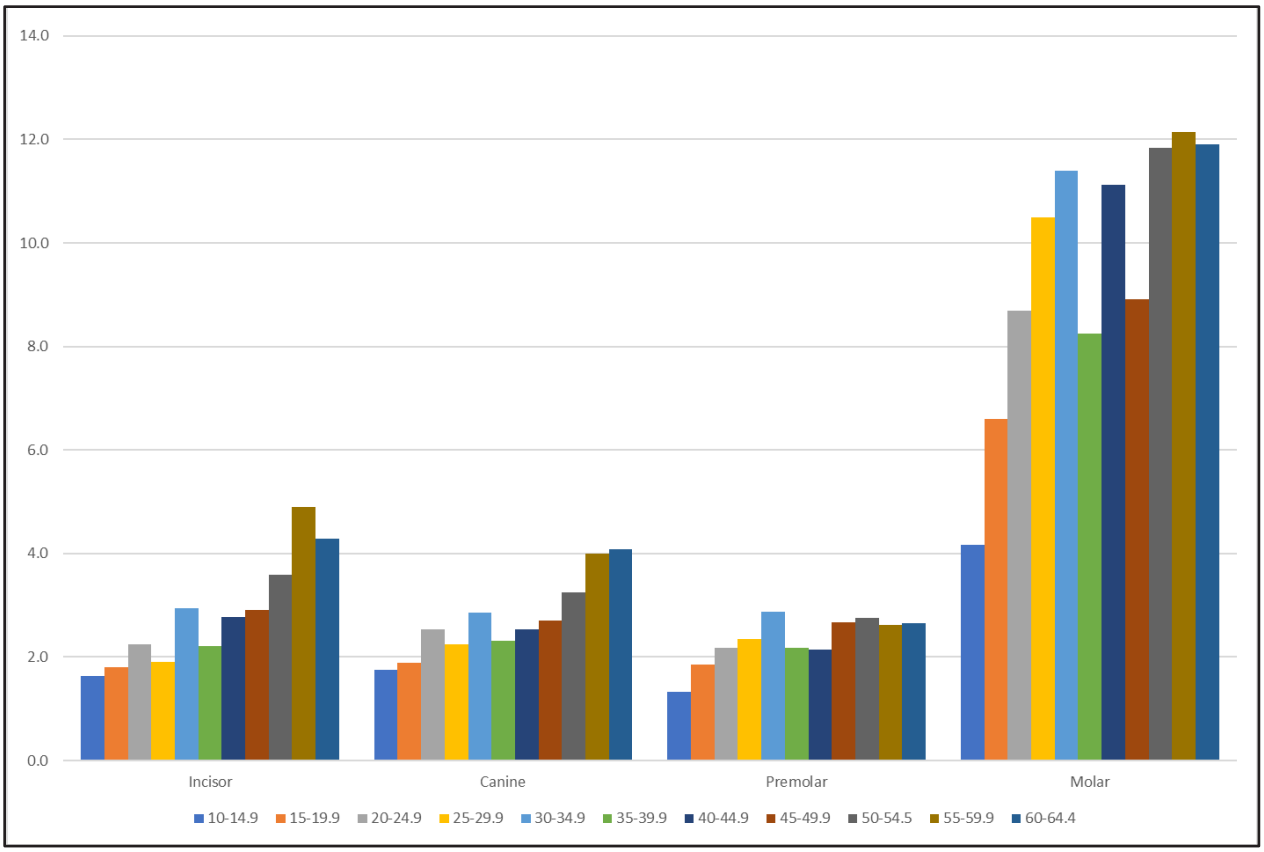


Figure 9.4.2: Average Tooth Wear Score by Age Group and Tooth Type

Table 9.4.4: Average Tooth Wear Score per Age Group and Standard Deviation

Age-at-Death	Average Wear Score				Standard Deviation			
	Incisor	Canine	Premolar	Molar	Incisor	Canine	Premolar	Molar
10-14.9	1.6	1.8	1.3	4.2	-	-	0.5	0.2
15-19.9	1.8	1.9	1.9	6.6	0.6	0.6	0.4	1.7
20-24.9	2.3	2.5	2.2	8.7	0.7	1.1	0.3	2.1
25-29.9	1.9	2.3	2.3	10.5	1.6	0.4	0.5	3.1
30-34.9	2.9	2.9	2.9	11.4	1.2	1.0	1.0	4.1
35-39.9	2.2	2.3	2.2	8.2	0.5	0.9	0.5	4.0
40-44.9	2.8	2.5	2.2	11.1	0.9	0.7	0.4	2.6
45-49.9	2.9	2.7	2.7	8.9	0.7	0.8	1.0	2.5
50-54.5	3.6	3.3	2.8	11.8	1.3	1.9	0.9	3.1
55-59.9	4.9	4.0	2.6	12.1	0.6	0.0	0.4	4.2
60-64.4	4.3	4.1	2.6	11.9	1.4	0.8	0.6	6.0

Age at occurrence was calculated for all teeth except the third molars. The timing of defects in the incisors, canines, and molars were calculated based on deciles of crown height using the crown length measurements and mean age estimates for South Africans from Reid and Dean (2006). Reid

and Dean (2000,2006) do not provide data for calculating age-at-occurrence of enamel hypoplasia on premolars. Since numerous enamel hyperplasia were present on the premolars (n=65, Table 9.4.6), Goodman and Rose (1990) formulae were utilized.

Of the 84 individuals with teeth, 53 have at least one enamel hypoplasia and 48 have more than one enamel hypoplasia (Table 9.4.5). The greatest frequency of individuals with hypoplasia is the 20-24.9 age group (n=15, 17.4%). This is potentially the result of their being more individuals in this age-at-death group (see Demography chapter). The 20-24.9 age group also has the highest average of enamel hypoplasia per person with 7.4 enamel hypoplasia per individual (n=18, 17.4%). The second highest frequency is the 30-34.9 group, 6.2 per individual (n=11, 8.1%), followed by the 25-29.9 age group, 5.8 per individual (n=4, 3.5%). As individuals age, the number of enamel hypoplasia per age group decreases, but starting at 45-49.9 years, all individuals with enamel hypoplasia have more than one (Table 9.4.5 and Figures (9.4.3 and 9.4.4).

Age of occurrence was calculated to ascertain what ages the individuals experienced stress during childhood. Enamel hypoplasia age-at-occurrence was sorted into age groups starting at year one, with 6 month increments through age 11 (Figure 9.4.5). The most frequent age for enamel hypoplastic defects to occur was between 3.1 to 3.5 years. From age one, the number of enamel hypoplastic defects increased until reaching the peak at 3.1 to 3.5 years, decreasing thereafter (Figure 9.4.5). After 5.1-5.5 years, a few enamel hypoplasia occurred at 6.1-6.5 years and again around 10 years of age (9.6 to 10.5 years).

Hypoplastic defect frequencies by tooth type indicate most health insults occurred between 2-4 years. Canines have the most enamel hypoplasia (n=233) followed by incisors (n= 163). Molar defect occurrences occurred in equal frequencies between 1-2.5, 4.6-5.5, and 9.6-10.5 years (Figure 9.4.3)

Table 9.4.6). Though not all individuals exhibited enamel hypoplasia, those with hypoplastic defects had numerous incidents, indicating continued stress episodes throughout their first five years of life. Only 20 of the 53 individuals had between one to five enamel hypoplasia. A range of 11-15 hypoplasia occurred in 13 individuals and 5 had 16-20 enamel hypoplasia (Table 9.4.7). Burial 46 had 37 enamel hypoplasia.

Table 9.4.5: Frequency of Dental Enamel Hypoplasia by Age-at-Death Estimate

Age-at-Death	N=Has Teeth	# Persons with Hypoplasia	# Persons >1 Hypoplasia	% Of the Group with Hypoplasia	% Of the Group With >1 Hypoplasia	Average # Hypoplasia Per Group
10-14.9	2	0	0	0.0%	0.0%	0.0
15-19.9	14	8	7	9.3%	8.1%	3.7
20-24.9	18	15	14	17.4%	16.3%	7.4
25-29.9	4	3	2	3.5%	2.3%	5.8
30-34.9	11	7	6	8.1%	7.0%	6.2
35-39.9	10	5	5	5.8%	5.8%	5.7
40-44.9	6	4	3	4.7%	3.5%	4.5

Age-at-Death	N=Has Teeth	# Persons with Hypoplasia	# Persons >1 Hypoplasia	% Of the Group with Hypoplasia	% Of the Group With >1 Hypoplasia	Average # Hypoplasia Per Group
45-49.9	5	3	3	3.5%	3.5%	2.6
50-54.5	7	3	3	3.5%	3.5%	2.6
55-59.9	2	1	1	1.2%	1.2%	4.0
60-64.4	3	2	2	2.3%	2.3%	3.0
Adult	4	2	2	2.3%	2.3%	2.8
Total	86	53	48			

Table 9.4.6: Frequency of Dental Enamel Hypoplasia by Tooth Type and Age-at-Occurrence

Age-at-Occurrence	Incisors	Canines	Premolars	Molars	Total	Percent
1-1.5	2	0	1	1	4	1%
1.6-2	27	0	0	9	36	7%
2.1-2.5	45	22	1	2	70	14%
2.6-3	49	40	1	0	90	18%
3.1-3.5	22	87	11	0	120	24%
3.6-4	16	50	6	0	72	14%
4.1-4.5	2	26	20	0	48	10%
4.6-5	0	8	9	13	30	6%
5.1-5.5	0	0	14	5	19	4%
5.6-6	0	0	0	0	0	0%
6.1-6.5	0	0	2	0	2	0%
6.6-7	0	0	0	0	0	0%
7.1-7.5	0	0	0	0	0	0%
7.6-8	0	0	0	0	0	0%
8.1-8.5	0	0	0	0	0	0%
8.6-9	0	0	0	0	0	0%
9.1-9.5	0	0	0	0	0	0%
9.6-10	0	0	0	3	3	1%
10.1-10.5	0	0	0	5	5	1%
Total	163	233	65	38	499	

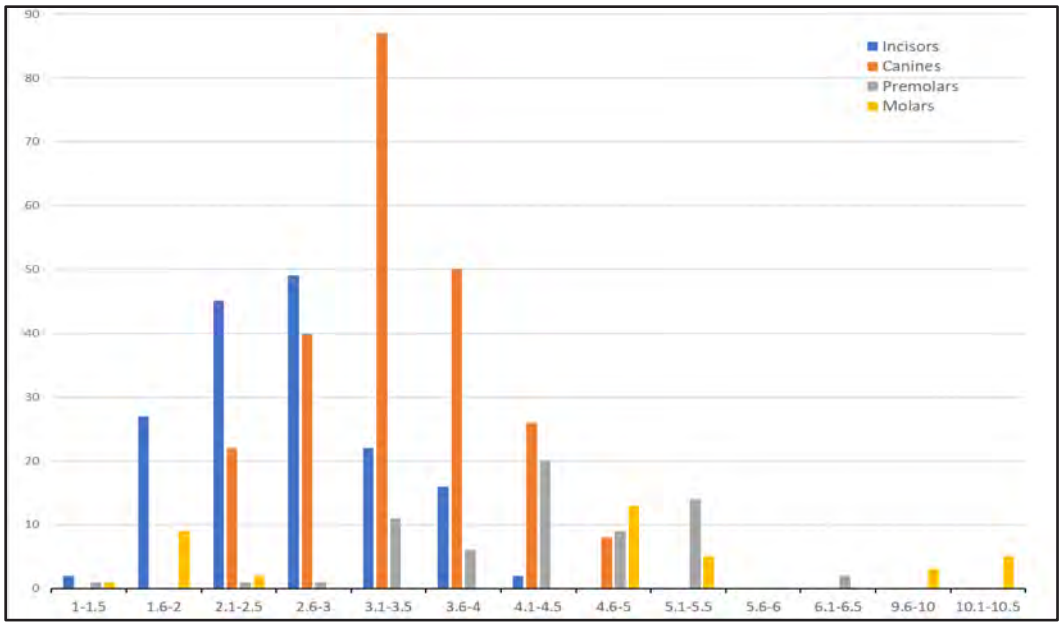


Figure 9.4.3: Frequency of Dental Enamel Hypoplasia by Tooth Type

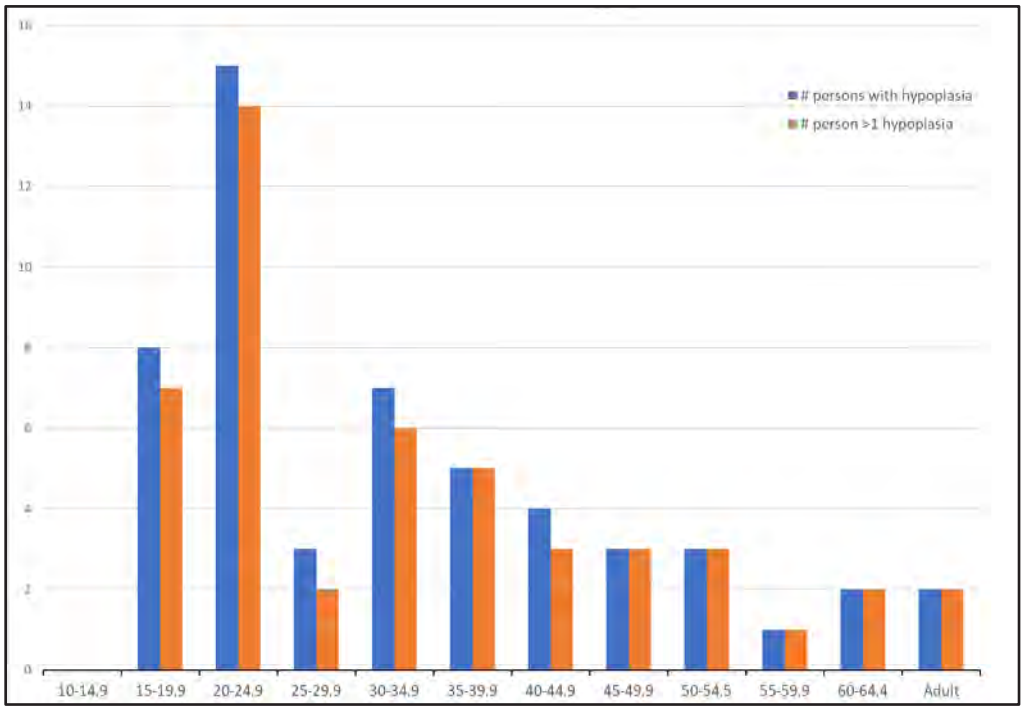


Figure 9.4.4: Number of Individuals with Dental Enamel Hypoplasia per Age Group

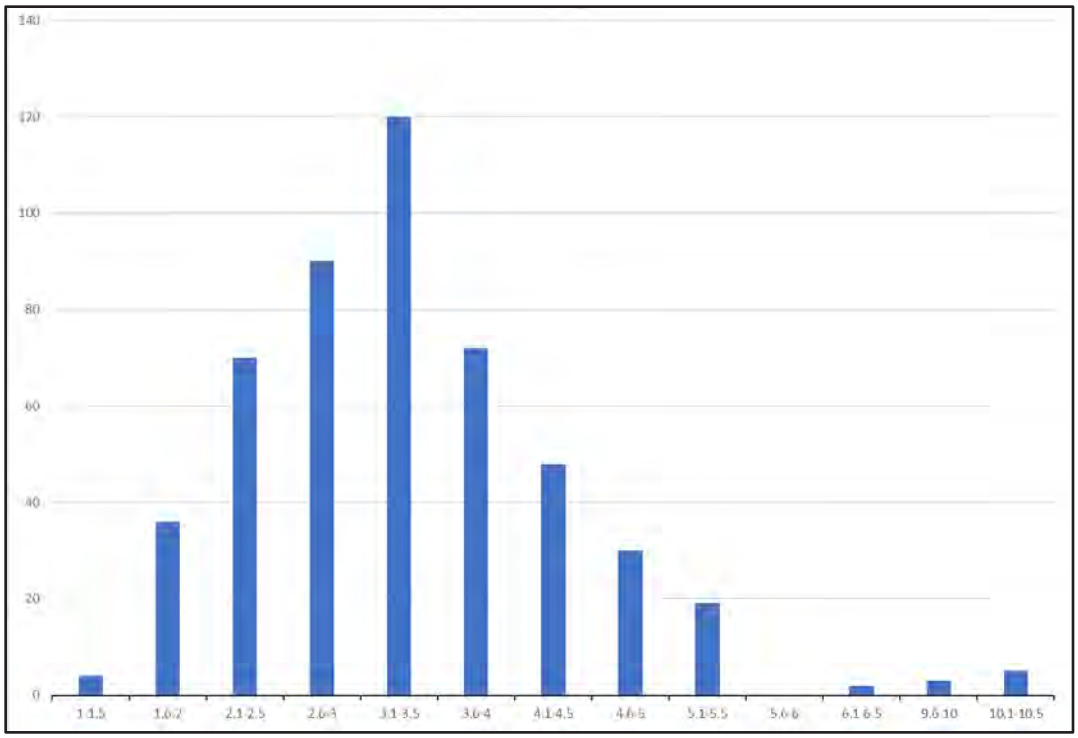


Figure 9.4.5: Frequency of Dental Enamel Hypoplasia by Age-At-Occurrence

Table 9.4.7: Number of Individuals with Dental Enamel Hypoplasia Frequencies Per Age Group

Age-at-Death	Number of Hypoplasia						
	1-5	6-10	11-15	16-20	21-25	37	Total
10-14.9	0	0	0	0	0	0	0
15-19.9	4	2	0	2	0	0	8
20-24.9	2	6	5	2	0	0	15
25-29.9	2	0	0	0	1	0	3
30-34.9	2	2	2	0	0	1	7
35-39.9	2	0	1	1	1	0	5
40-44.9	2	0	2	0	0	0	4
45-49.9	2	0	1	0	0	0	3
50-54.5	1	1	1	0	0	0	3
55-59.9	0	1	0	0	0	0	1
60-64.4	2	0	0	0	0	0	2
Adult	1	0	1	0	0	0	2

9.4.1.5 Discussion

Dental caries, wear, and calculus provide information on health. However, other than noting their presence, interpretations regarding whether they occurred as a result of incarceration cannot be determined without identifying the individuals. Once individuals buried at Bullhead Camp Cemetery are identified and are linked to persons with known personal information, studies can be performed to determine the effects of incarceration on their health. Part of the difficulty in trying to identify the

relationship between incarceration and health without identifying individuals is due to the differing amount of time individuals spent at camp and whether the individual would have been at the camp long enough for health insults to be recorded on bone and in the teeth. For example, dental calculus, caries, and abscesses need time to form. Additionally, comparisons of health stressors, such as the effects of malnutrition, between individuals who were at the camps for various amounts of time may assist in identifying how the devastating effects of incarceration at labors camps manifest skeletally. Once the individuals from Bullhead Camp Cemetery are identified, comparative analyses with osteological evidence, known year born, and their nativity will also provide important information about the stress loads during childhood under slavery and freedom as well as the nutritional adequacy and weaning ages.

Table 9.4.8: Frequencies of Dental Enamel Hypoplasia and Comparative Cemetery Populations

Site	N	Total%	N	Adult%	N	% >1 Hypoplastic defects	Reference
Bullhead Camp Cemetery (C)	86	62.0	86	62.0	86	55.8	
Freedman's (F)	200	68.5	150	72	136	49.3	Tiné 2000
African Burial Ground (S)			141	71.6			Blakey et al. 1998
Cedar Grove (F)	36	83.3	21	95.2	30	70.0	Rose 1985
New Plantation Barbados (S)	35	17.0	35	17.0			Shuler 2005

% = percentage of observable individuals, total includes children and adults

Key

N= number of individuals

F= Free Black

S=Slave Black

C= Convict Labor

Childhood stress in the Bullhead Camp Cemetery individuals can be interpreted using dental enamel hypoplasia data, which provide information on the environmental, economic, and sociopolitical environment in which they were raised. Although not all of the individuals were raised in the same area, we can look at trends in the age-of-occurrence compared to historic information about diet and health in slave and freed populations and with individuals from slave and freedman cemeteries. From historic records of those identified as dying at the L.A. Ellis camps, 38 individuals were born into slavery (prior to AD 1865), and 30 individuals were born after emancipation (Figure 9.4.6 and 9.4.7).

Knowing birth years gives a baseline from which to interpret the types of stress to which individuals would have been subjected and that many individuals lived a large portion of their adulthood in slavery. The skeletal manifestations of nutritional and disease stress on skeletal remains from slavery as compared to the first several decades in freedom has not been identified, partially because specific birth dates are rare to have for individuals in the late 1800s, or simply has not been a focus of study with other cemetery research focusing on populations' health patterns as a whole.

Comparisons with other freedman and slave cemetery populations reveal whether individuals at Bullhead Camp Cemetery were subjected to greater frequencies of stressors as children overall. As a whole, Bullhead Bayou individuals had fewer dental enamel hypoplasia for all adults, except for New Plantation in Barbados (Table 9.4.8); Freedman's cemetery 68.5%, African Burial Ground 71.6, Cedar Grove 95.2%, New Plantation 17%. The frequencies of individuals with more than one enamel hypoplasia is higher at Bullhead Camp Cemetery (55.8%) than Freedman's Cemetery (49.3%). It is lower than Cedar Grove, although Davidson et al. (2002) notes although hypoplastic defects are "alarmingly high," they are demonstrative of the hardships of living in a rural environment and surviving on a rural diet. Further, there is a difference in being raised in rural versus urban environments where those living in urban environments likely had access to a wider range of foods. Data on the range of enamel hypoplasia per person were not reported for the comparative cemeteries and it would be informative to know if those individuals exhibited the high frequencies evident at Bullhead Camp Cemetery, with up to 37 in one individual and 25% with more than 10 hypoplasia. The lack of frequencies per individuals for comparison may be masking differences in the prolonged and recurrent exposure to diseases and malnutrition. Enamel hypoplasia frequencies in the number of individuals who have at least one hypoplastic defect may be slightly lower than other cemeteries, although the individuals with enamel hypoplasia may suffer from more health stress episodes during their childhood than those at other cemeteries. This difference is significant because it may reveal a pattern of more intense poverty, exposure to disease, and greater limitations on types of foods available for consumption, such as chronic protein deficiency or lack of vegetables, weaning, or limited nursing.

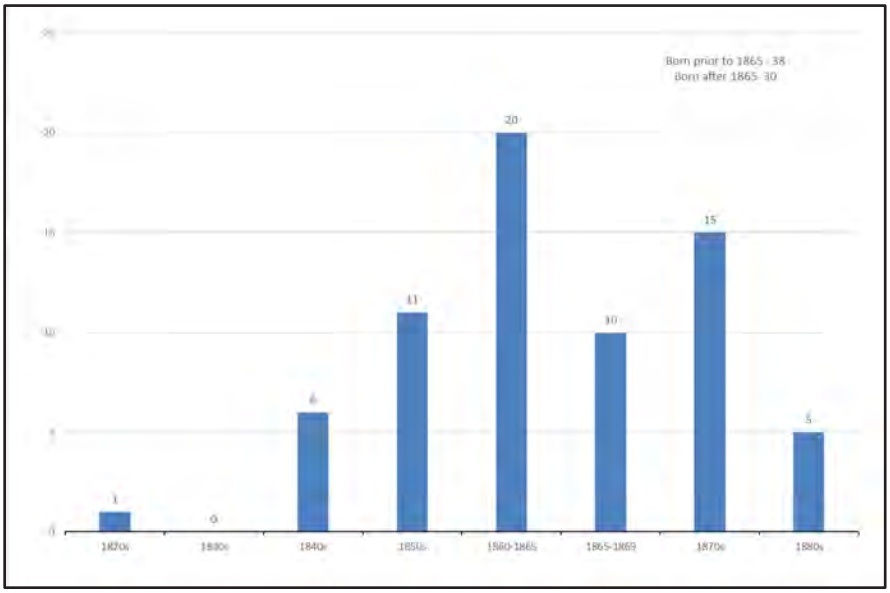


Figure 9.4.6: Frequency Inmates Listed in the Historic Records Were Born by Decade

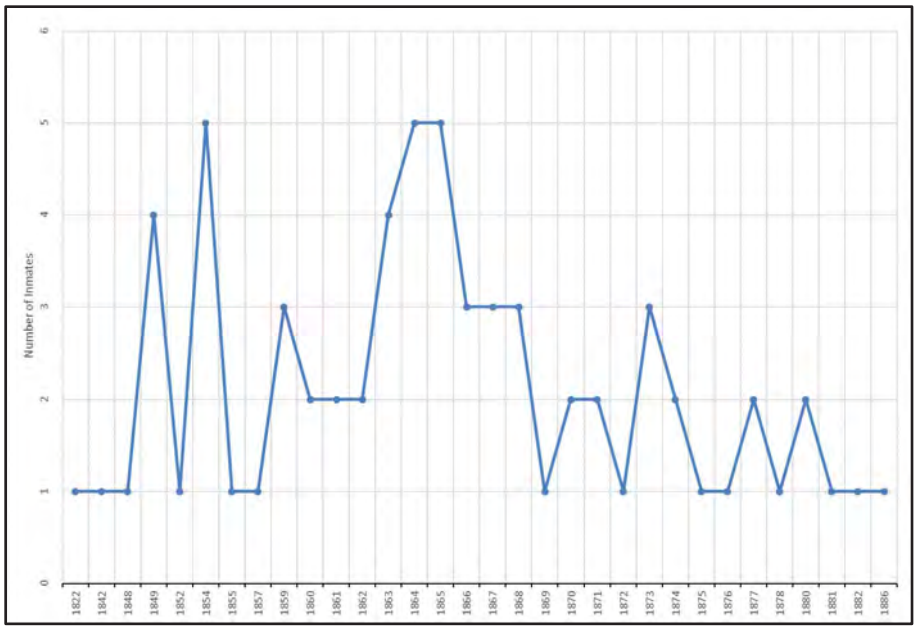


Figure 9.4.7: Frequency Inmates Listed in the Historic Record were Born by Year

Evidence of these health issues during slavery and during emancipation/reconstruction are noted in slave narratives and studies on slavery and emancipation. Dunaway (2003) discusses the nursing protocols for slave mothers in Appalachia, which likely applies to the experiences of many slaves. She notes infants, who should be fed on demand at least ten times a day, required new mothers to return to work within the first three weeks after birth. They were required to place the infant on a feeding schedule allowing only three feedings per day and then only allowed twice per day when the infant was 8-12 months old. Afterward, they were placed on solid foods only, usually abruptly, which would result in a loss of appetite and malnutrition (Dunaway 2003). A tea of herbal mixes was given to silence the crying infants and encourage sleep between feedings.

In some instances, a nursing mother could bring the child to the field with her but was only allowed to feed on a certain schedule or a wet nurse would be available for the slave infants. While incidents before one year of age are not likely to show on permanent teeth, individuals from Bullhead Camp Cemetery may have been moved to solid foods at one year of age; enamel hypoplasia in individuals as young as 1-1.5 years are present. The poor nutritional quality of weaning foods and the introduction of contaminated water results in gastrointestinal diseases, particularly after breastmilk is no longer available and the infant loses the boosted immunities provided by breastmilk (Saunders, Herring, and Boyce 1995), resulting in enamel hypoplasia due to stress episodes from being sick.

In addition, Dunaway (2003) states that Appalachian slave children did not have a diverse diet and were chronically hungry. Most received cornbread to eat, rarely receiving fruit, vegetables, or meat. While Texas slave narratives (Unites States Works Projects Administration 1941) state through many informants that they had plenty to eat, the foods they describe, ash cakes, cornbread, etc., would have been nutritionally deficient in important proteins, minerals, and vitamins. Barr (1996) states the

slave diet in Texas generally included bread, molasses, beef, chicken, pork, sweet potatoes, and hominy. Plantation owners also likely encouraged slaves to grow their own vegetables for personal use (Covey and Eisnach 2009), but these vegetables would only be available seasonally. Additionally, children ate from a single trough with dirty hands (Dunaway 2003), which is ripe for transmitting infectious diseases, such a cholera.

Freedom did not immediately end the inordinate suffering. Numerous obstacles were faced by freed people as they were transitioning from slave to freedman. In *Sick from Freedom* (Downs 2012), notes "tens of thousands of freed slaves became sick and died due to the unexpected problems caused by the exigencies of war and the massive dislocation triggered by emancipation". The inability to secure food, shelter, and clothing, coupled with epidemics and sickness caused suffering and left many dead (Downs 2012). Texas slave narratives (Unites States Works Projects Administration 1941), Sarah Ford states that she had less to eat after emancipation. This sentiment is stated in several other narratives. Downs (2012) cites a northern newspaper where displaced freemen were housed in old, filthy slave pens, where they suffered from malnutrition, starvation, and exposure to diseases, including smallpox, yellow fever, and dysentery.

Employment did not always lead to improvements in living conditions. Dunaway (2003) notes 96% of Appalachian households were landless and 70% reported zero wealth in the 1870 census. She cites several individuals noting most did not have enough to eat, wages were low, and could they barely feed their families (Dunaway 2003:235-236). Rural sharecropping diets consisted rarely of vegetables with salted meat, cornbread, syrup of sorghum, and sometimes milk (Levenstein 1993, cited in Davidson et al. 2002) This type of diet lacking in vitamin C and high in corn would result in diseases such a pellagra, anemia, scurvy, rickets, marasmus, and kwashiorkor. Malnutrition as a child also predisposes individuals for high blood pressure and greater risk of hypertension, cardiovascular diseases, and diabetes (DeBoer et al. 2012; Sawaya et al. 2009). The transition from slavery to freedom was wrought with difficulties and stress. Children born and raised during this period may have suffered from more episodic periods of stress as malnutrition and starvation may have been more rampant due to economic circumstances and forced migrations searching for employment (Downs 2012).

Since the historical research (see Chapter 7) of the individuals listed as dying at the L.A. Ellis camp indicate almost all were born prior to AD 1875, the rates of dental hypoplasia at 64%, with more than one hypoplastic defect per individual at 55.8%, matches the slave narratives and research on slavery and emancipation. Childhood malnutrition, exposure to disease, and periods of episodic stress were a constant source for developing dental enamel hypoplasia. Additionally, the high frequency of hypoplastic defects in each individual with enamel hypoplasia support the historic research on slavery and discussion regarding the suffering individuals endured during slavery and the transition to and through the first several decades of freedom; 62% of individuals with hypoplasia have more than 6 hypoplasia (38% of all individuals with observable teeth), 40% of individuals with hypoplasia having more than 10 hypoplasia (25% of all individuals with observable teeth), and only 7.5% having 1 hypoplasia (4.6% of all individuals with observable teeth). Almost all individuals at Bullhead Camp Cemetery with evidence of childhood stress identified via enamel hypoplasia suffered numerous

rounds of stress ranging from one year to ten years of age and likely would have entered Bullhead Camp with weakened immune systems.

9.5 PATHOLOGY

9.5.1 Skeletal Manifestation of Diet and Nutrition

Analysis of skeletal manifestations of disease and nutritional deficiencies on the remains from Bullhead Camp Cemetery inform on access to foods as well as cultural and behavioral attitudes towards African-Americans during the 19th century. As with other similar cemeteries, the position of individuals within a community influence these factors, with certain groups more at risk of malnutrition and/or infectious diseases (Brickley and Ives 2008). Access to food, clothing, and shelter plagued freed slaves after emancipation as many were constantly moving with little opportunity for employment (Downs 2012, Dunaway 2003). This mobility, compounded by the lack of job opportunities, made many freed slaves susceptible to illness, such as dysentery, and exposure (Downs 2012). For the individuals buried at Bullhead Camp Cemetery, treatment while at the prison camp, particularly related to the type and quantity of food, water, clothing, shelter, and work hours, are significant to the types and severity of nutritional deficiencies and susceptibility to infection affecting the incarcerated individuals.

The quantity of foods and variety of foods consumed affect the nutritional status of individuals. Although an individual consumes enough calories in a day, the lack of variety of food can result in a lack of essential vitamins, minerals, and amino acids needed to keep an individual healthy. As a result, these individuals would be increasingly susceptible to metabolic bone diseases and infectious diseases. For example, a lack of fruits and vegetables in the diet can result in a vitamin C deficiency, resulting in Scurvy. Vitamin C maintains collagen and consequences of a deficiency include hemorrhage, lack of bone formation, delayed wound healing, and pain and weakness in the limbs (Brickley and Ives 2008). Scurvy is also linked to the slowing of metabolic rate of iron and folate which result in anemia. Another common deficiency includes Vitamin D deficiency leading to an increase in bone resorption and release of calcium into the blood serum (Brickley and Ives 2008). Pathologically low levels of vitamin D can result in rickets in children and osteomalacia in adults. Vitamin D production is mainly affected by the amount of sunshine to which an individual is exposed. Cultural factors, such as wearing hats, long sleeves, and pants, seasonal variation in exposure, and opportunity to be outside in the sunshine long enough for adequate vitamin D production can minimize vitamin D synthesis. Vitamin D can be supplemented through naturally occurring food sources; however, these sources are limited and include primarily eggs, meat, and fish (Holden and Lemar 2008). Further, a diet high in grains can bind calcium preventing the use and absorption of vitamin D (Brickley and Ives 2008). Skeletal manifestation of rickets varies with the most recognizable being bending deformities of the long bones and pelvis.

The environment in which an individual lives also influences susceptibility to nutritional deficiencies and infectious diseases. For example, the lack of access to clean water can result in diarrheal diseases and an inability to absorb the nutrients in the food that is being consumed, such as dysentery and cholera. Poor environmental conditions overall will increase protozoan and insect

infections, with increased epidemics occurring during dry seasons due to malnutrition and poor nutritive levels (Duncan, Duncan, and Scott 1996).

The nutritional deficiencies are evident in skeletal remains from the proliferation, remodeling or resorption of bone. The skeletal manifestations are most prevalent in the skull and long bones. Two most commonly reported bony changes in the skull, cribra orbitalia and porotic hyperostosis, are distinctive to these afflictions and are diagnostic of at least one metabolic disease, such as rickets, scurvy, anemia, or infection, when combined with differential diagnoses based on the presence of other skeletal manifestations and periosteal bone formation (Waldron 2009, Walker 2009). Other indicators of nutritional status, either through food access or disease processes inhibiting absorption, include endocranial lesions on the internal aspect of the skull, bone infection, and developmental defects. This section will focus on rates of skeletal changes in the individuals at Bullhead Camp Cemetery associated with malnutrition that are indicators of nutritional stress. Second, it will cover skeletal lesions that are singularly indicative of an infectious process and developmental disorders present in the population. Last, it will explore evidence of food availability and known conditions of the camps from the historic records and identify whether the conditions could have resulted in the metabolic and infectious disturbances as well as list the known causes of death other than accidents and trauma for those who died at the prison camps. Differential diagnoses of metabolic disease, such as rates of scurvy, rickets, etc., per individual will be retained for later research focusing specifically on the type of metabolic disease.

9.5.1.1 Cribra Orbitalia

Cribra orbitalia manifests as circumscribed areas of pitting and porosity in the orbits. They develop as a result of an expansion of the diploe of the skull and are indicative of infectious and metabolic diseases such as scurvy, scalp infections, malaria, and anemia (Ortner 2003; Brickley and Ives 2008; Walker et al. 2009; Rinaldo et al 2019; and Gowland and Western 2012). Initially thought to be caused by iron-deficiency anemia, a study by Walker et al (2009) argues that the causative factor is from vitamin B12 and vitamin C deficiencies, whether from the availability of certain foods, lack of variety in the consumption of certain foods, or the inability to absorb the nutrients due to infection and disease. Another study by Gowland and Western (2012) also link cribra orbitalia with malaria and the related comorbidities from malaria.

9.5.1.2 Porotic Hyperostosis

Porotic hyperostosis, similar to cribra orbitalia, appears as areas of pitting and porosity on the skull vault. It too is caused by the expansion of the diploe, due to the increased cell size (hypertrophy) or an increased number of cells (hyperplasia). Further, it is associated with the reabsorption of the cortical bone making the lesions cause by diploe expansion more visible and, in extreme cases, exposing the cancellous bone (Rinaldo et al. 2019). Porotic hyperostosis has a number of possible etiologies, but Walker et al. (2009) argued it is generally associated with a lack of vitamin B12, which is obtained from animal products including meat, eggs, and milk.

9.5.1.3 Healed and Active Lesions

Incidents of porotic hyperostosis and cribra orbitalia in the Bullhead Camp Cemetery population were coded as active or healed/healing. Differentiating between active and healed/healing incidents of

porotic hyperostosis and cribra orbitalia was noted because of the need to determine whether the stressor which caused these conditions occurred near the time of death for these individuals or if the stressor occurred prior. This distinction thus aids in determining whether the development of the skeletal lesions can be directly attributed to prison camp conditions, as healed/healing lesions may reflect the successful remission from an illness in the past before imprisonment. While it is possible the stressor may have occurred and healed while at the prison camp depending upon the length of time served, active lesions indicate the individual was suffering from an infectious or metabolic disease while incarcerated noting the frailty of the individual at the time of their death (Rinaldo 2019).

Healed and healing lesions showed evidence of remodeled holes that have rounded margins. The range for healed/healing lesions range from those which showed any evidence of rounded, remodeling margins to those whose porous lesions were completely closed. Active lesions had sharp, margins with no indication of remodeling. DeWitte (2014) indicates that the differentiation between those with healed/healing and active lesions are an indication of frailty among individuals. The study found that active lesions reflect lower survivorship due to "susceptibility to infection associated with nutritional deficiencies, intrinsic (i.e. genetically or developmentally determined) poor immune competence, previous exposure to disease, or some other detrimental environmental factor" (DeWitte 2014). Active and healed lesions from cribra orbitalia and porotic hyperostosis will be explored in this report because they are readily associated with nutritional deficiencies.

9.5.1.4 Indicators for Cribra Orbitalia and Porotic Hyperostosis in the Bullhead Camp Cemetery

From the analyzable remains at Bullhead Camp Cemetery, cribra obritalia is present in 39% (n=27) of the orbits. Of those 27 individuals with lesions, 11 had active lesions (41%, 11 of 27) and 16 individuals had healed or healing lesions (Table 9.5.1, Figure 9.5.1). Porotic hyperostosis affected 57% (n=43) of the observable crania. Evidence of healed/healing lesions was found in 29 individuals and active lesions were present in 14 individuals (33%) of those with cribra orbitalia lesions (33%) (Table 9.5.1; Figure 9.5.1). There was no discernable pattern of healed/healing or active lesions across the cemetery. The presence of cribra orbitalia and porotic hyperostosis in the Bullhead Camp Cemetery population were independent of each other in several cases.

Table 9.5.1. Frequencies of Skeletal Indications of Disease and Developmental Defects

	Cranial			Appendicular		Developmental Defects	
	Porotic hyperostosis	Cribia orbitalia	Otitis Externa and Otitis Media	Osteomyelitis, Osteitis	Periosteal Reactions	Spina Bifida Occulta	Fused Carpals
Present	43	27	3	2	21	3	5
Active	14	11	3	2	-	-	-
Healed	29	16	0	-	-	-	-
Absent	33	43	-	78	62	-	-
Total	76	70		81	83		

Figure 9.5.1: Burial 27 Cribra Orbitalia

Figure 9.5.2: Burial 32 Porotic Hyperostosis

Comparisons with other cemetery populations provide information regarding the greater levels of stress experienced by those at the L.A. Ellis prison camp than those in the general population. Unfortunately, the comparative populations did not separate their incidences by active and healed/healing and are rather presented as present/absent except at the African Burial Ground in New York City, NY. The comparative sites include: The First African Baptist Church (FABC) Cemetery, a freedman and freeborn black cemetery in Philadelphia, PA dating to 1823-1843 (Tiné

2000); The Freedman's Cemetery, a freedman cemetery located in Dallas, Texas, dating to the late 19th century (Tiné 2000); Cedar Grove Cemetery, a rural cemetery for emancipated slaves and their descendants dating to 1890-1927 (Rose and Santeford 1985); Mother United African Methodist Episcopal Church (UAME); a cemetery for freeborn blacks and freedmen in Wilmington, Delaware, dating from the late 1850s-1920s (Tiné 2000); Third New City Cemetery (TNCC), a portion of a predominately black cemetery located in Houston, Texas dating to the 1850s/1880-1910 (Tiné 2000); The African Burial Ground, a cemetery for slaves in New York dating ca. 1712-1780s (Blakey & Rankin-Hill 2004). The last comparison is from the slave cemetery population of the Newton Plantation, a sugar plantation in Barbados, West Indies dating to the 17th to the 19th centuries (Shuler 2005).

In comparison with these other cemeteries, incidences of cribra orbitalia and porotic hyperostosis were higher at Bullhead Camp Cemetery; porotic hyperostosis 57% and cribra orbitalia 39% (Table 9.5.2). Cribra orbitalia and porotic hyperostosis frequencies for individuals at Bullhead Camp Cemetery and comparative sites. The Cedar Grove population lived in rural Arkansas and suffered high rates of nutritional deficiencies (21.1% porotic hyperostosis, 26.3% cribra orbitalia), however the rates still were not as severe as Bullhead Camp Cemetery. The Newton Plantation population reflects a starkly opposite picture to Bullhead Camp Cemetery, with the complete absence of porotic hyperostosis and low cribra orbitalia rates, possibly because it was a sugar plantation (Shuler 2005). Of the individuals with cribra orbitalia at Newton Plantation, only three individuals were adults, and all had healed lesions indicating it was a childhood affliction.

Only the African Burial Ground (47.3%) and FABC (53%) had percentages of porotic hyperostosis close to those at Bullhead Camp Cemetery (Table 9.5.2). Rates at Bullhead Camp Cemetery were a minimum of 4-10% higher than each of those cemetery populations. At the African Burial Ground, of the entire population, only 8.2% had active cribra orbitalia lesions. Adults comprised 22% of all cribra orbitalia lesions, with only 2.9% of those adults with lesions having active lesions (Table 9.5.2). At Bullhead Camp Cemetery, 33% of all lesions were active. Active porotic hyperostosis at the African Burial Ground was present in 4.8% of the whole population and only 1.5% of the adult population. It would be significant to have active versus healed lesion data for all of the cemeteries to compare whether the evidence of nutritional stress shows the stress occurs most frequently in children. Even though the African Burial Ground population exhibited high rates of infection and inadequate nutrition, the presence of mostly healed cribra orbitalia and porotic hyperostosis indicate the nutritional deficiencies mostly afflicted children rather than adults and most of those children survived the incidences of nutritional deficiencies.

The frequencies of healed lesions at Bullhead Camp Cemetery indicate that individuals did also suffer from nutritional deficiencies as children or before arriving at the cemetery. However, the presence of active lesions, particularly in such high frequencies, highlights the unsanitary conditions and nutritional inadequacy of the foods provided at the prison camps and that these rates. Further, the comparison of these data to other contemporary and comparative cemetery populations indicate that the number of incidences of active lesions is atypical given the negligent rates of active lesions afflicting the adults of other populations who are residing in areas with high rates of nutritional stress.

Table 9.5.2: Cribra Orbitalia and Porotic Hyperostosis Frequencies for Individuals at Bullhead Camp Cemetery and Comparative Sites

Site	N	Porotic Hyperostosis	N	Cribra orbitalia	Source
Bullhead Camp Cemetery	76	57%	70	39%	This report
Freedman's Cemetery	652	5.7%	435	7.6%	Tiné (2000)
African Burial Ground	275	47.3%	228	23.7%	Null et al. (2009)
Cedar Grove*	76	21.1%	76	26.3%	Rose and Santeford (1985)
FABC 8th Street*	75	53.3%			Kelley and Angel (1987)
Mother UAME*		6.3%		6.0%	Hazel (1998)
TNCC*	136	4.0%	136	3.0%	Derrick and Steele (1999)
Newton Plantation	49	0%	23	13%	Shuler (2005)

N=number of observable individuals with the condition, both active and healed

% = percent of observable individuals affected

* data as cited in Tiné (2000).

9.5.1.5 Endocranial lesions

Endocranial lesions are new bone layers on in inside of the skull. They occur around the meningeal vessels on the cruciate eminence of the occipital, parietals, frontal bone, along the venous drainage, the sigmoid sulcus of the temporal bone, and sagittal sulcus (Sinnot 2013, Lewis 2004, Boutin 2010). They are the result of hemorrhagic processes (Schultz 2001). While their precise etiology is controversial and are generally recognized non-specific indicators of hemorrhage or infection (Lewis and Roberts 1997; Lewis 2004), some argue that they represent bouts of infectious disease, metabolic stress, chronic meningitis, scurvy, anemia, neoplasia, scurvy, rickets, venous drainage disorders, and tuberculosis (Boutin 2010; Geber and Murphy 2012; Lewis 2004).

Lewis (2004) classifies the types of endocranial lesions into four categories. These include pitted lesions (Type 1, Figure 9.5.3), deposits of immature fiber bone (Type 2, Figure 9.5.4), capillary formations (Type 3, 9.5.5), and "hair-on-end" bone formations (Type 4, Figure 9.5.6). Pitted lesions are new lesions without healing. Immature fiber bone formation suggests healing is occurring. Capillary bone formations extend into the bone and are organized within and around vascular structures that do not have evidence of new bone formation, suggesting an active lesion. The "hair-on-end" formations have a "frosted" or thickened appearance suggestive of remodeling (Lewis 2004).

Five individuals had evidence of endocranial lesions: Burials 18, 43, 45, 48, and 54. Each has lesions one or more locations along the sagittal sulcus, cruciate eminence of the occipital, frontal bone, and parietal bones. Lesions on Burial 18 are indicative of unhealed capillary lesions located on the frontal bone and parietals (Type 1). Burial 18 also had pitting along the sagittal sulcus with deposits of immature fiber bone (Type 2). Burial 43 had capillary bone formations on the parietals and occipital cruciate eminence (Type 3). Burial 45 had "hair-on-end" lesions along the sagittal sulcus suggestive of healing (Type 4) and pitting on the occipital cruciate eminence indicating new lesions (Type 1). Burial 48 had pitting and capillary bone formation along the sagittal sulcus (Types 2 and 3) and pitting on the occipital cruciate eminence (Type 1). Burial 54 had one small lesion on the frontal bone and it was a "hair-on-end" lesion (Type 4).

Differential diagnosis of the endocranial lesions will not be discussed in this report as they are reserved for future research focusing on specific metabolic and infectious diseases at Bullhead Camp Cemetery as numerous lesions throughout the skeleton of each individual have to be evaluated to determine whether the endocranial lesions are part of an overall disease process, such as scurvy, meningitis, tuberculosis, anemia, or diseases or events resulting in hemorrhages. For example, a combination of the presence of endocranial lesions along with periosteal reactions of the zygomatici, mandible, tibia, sphenoid, hard palate, etc., together would be suggestive of scurvy (Sinnot 2013). It is also possible the lesions could be cause by episodes of heat stroke, which result in hemorrhages and only have a 10-50 percent mortality rate (Guerrero et al. 2013, Boersma 1998). Heat stroke is a definite possibility since it is known that several individuals died from heat stroke that were buried at Bullhead Bayou Cemetery.

We can determine that many of the lesions are active and not residual, healed lesions. Burials 18, 43, and 48 had active lesions, while burials 45 and 54 had “hair-on-end” healed lesions. Due to the presence of active lesions, these were active when these individuals died. We cannot determine when the healed lesions in burials 45 and 54 occurred.

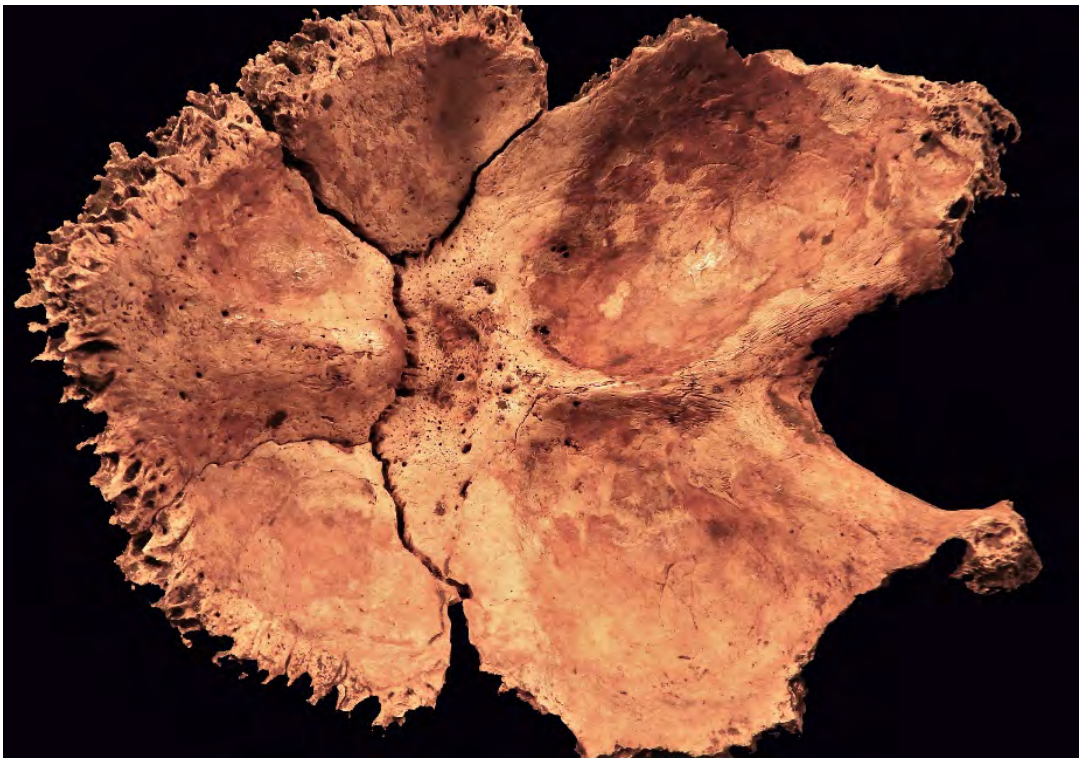


Figure 9.5.3: Burial 45 as an Example of a Type 1 Endocranial Lesion

Figure 9.5.4: Burial 18 as an Example of a Type 2 Endocranial Lesion

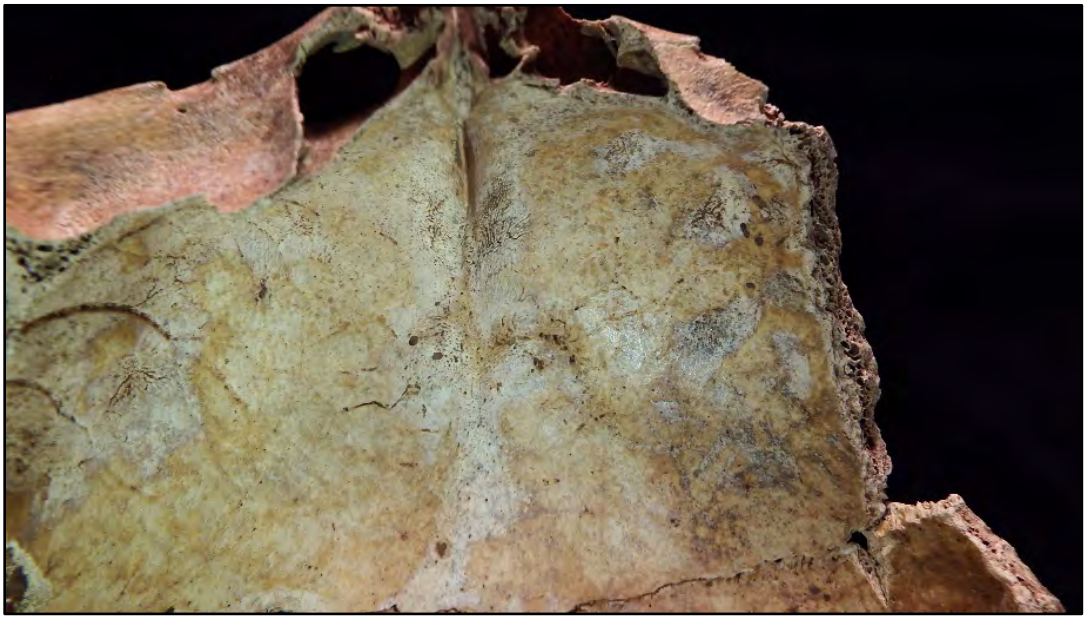


Figure 9.5.5: Burial 18 as an Example of a Type 3 Endocranial Lesion

Figure 9.5.6: Burial 45 as an Example of a Type 4 Endocranial Lesion

9.5.2 Osteomyelitis, Osteitis, Periosteal Reactions

Infection of the bone can occur in three different locations, the periosteum, the cortex, and the medullary. Each of these are termed respectively periostitis, osteitis, and osteomyelitis. Periostitis is new bone formation that traumatize the periosteum, or the dense layer of connective tissue that covers bone, and as a result of infection or inflammation create a proliferative skeletal lesion (Ortner 2003, Roberts and Manchester 2005, Larsen 1997). These lesions are associated with local trauma, metabolic disease, such as scurvy, and other infectious diseases. Osteitis can be identified by thickening of the bone cortex. Osteitis can be confirmed by radiographs showing the thickening is limited to the cortical bone (Roberts and Manchester 2005). Osteomyelitis is diagnosed on the enlargement of the bone where the infection affects the bone marrow. It is identified through the presence of enlargement, a cloaca (from which subperiosteal pus escapes), and sometimes a sequestrum (a piece of necrotic bone) (Roberts and Manchester 2005, Roberts 2019). Periosteal reactions were evident in long bones of 21 of the 83 observable individuals at Bullhead Camp Cemetery (Table 9.5.1), with 16 of 75 observable individuals with periosteal reactions in the crania and 5 of 79 observable individuals in the extremities. One individual exhibited a lesion consistent with osteitis and three with osteomyelitis, other than those from trauma associated with gunshot wounds. Only one example of each infection will be discussed.

Examples of each type of non-specific bone infection in the long bones were found at Bullhead Camp Cemetery. Burial 53 had a large, healed periosteal lesion with lamellar bone on the medial side of the femur inferior to the neck of the femur (Figure 9.5.7). No fractures, gunshot, or sharp force trauma

were visible, and the lamellar periosteal lesion is not in a location for a musculoskeletal attachment. Burial 47 also has a non-specific periosteal reaction on the anterior crest of the left tibia with lamellar bone and expansion of the cortex (Figure 9.5.8). This indicates a chronic condition in which the periosteum in this area is chronically inflamed. Burial 96 is an example of osteitis only affecting the cortex of the bone. The lateral edge of the distal humerus had an expanded cortex with a healed lesion (Figure 9.5.9). Radiographs show that the infection did not penetrate into the bone marrow and stayed within the cortex (Figure 9.5.10). Burials 6 and 47 both had evidence of osteomyelitis. Burial 6 had an expansion of the distal left tibia with a cloaca (Figure 9.5.11). Figure 9.5.12 shows the penetration of the infection into the medullary cavity and bone marrow, although the small cloaca on the medial side of the distal epiphyses does not show on the radiograph. Burial 47 had osteomyelitis of the right 3rd proximal and medial phalanges of the foot, probably from a fracture (Figure 9.5.13).

Figure 9.5.7: Burial 53 Periostitis on the Left Femur

Figure 9.5.8: Burial 47 Periostitis on the Left Tibial Anterior Crest

Figure 9.5.9: Burial 96 Osteitis of the Right Distal Humerus

Figure 9.5.10: Burial 96 Radiograph of the Osteitis of the Right Distal Humerus

Figure 9.5.11: Burial 6 Osteomyelitis of the Left Distal Tibia with Cloaca

Figure 9.5.12: Burial 6 Radiograph of Osteomyelitis of the Left Distal Tibia with Cloaca

Figure 9.5.13: Burial 47 Osteomyelitis with Cloaca of the Right 3rd Proximal and Medial Phalanges of the Foot

9.5.3 Otitis Externa and Otitis Media

Ear infections are differentiated into three categories depending upon the location of the infection: outer, middle, or inner ear. These are also known as otitis externa, otitis media, and otitis interna, respectively. All three express differently in the soft tissue and cause different bone changes. Otitis interna will not be discussed because there were no cases at Bullhead Camp Cemetery.

9.5.3.1 Otitis Externa

Otitis externa affects the outer ear, nicknamed swimmer's ear, and is caused by microorganisms becoming trapped and proliferating in the outer ear canal (Mays and Holst 2006, Purchase 2016). Sweating and humid environments are predisposing factors for otitis externa and symptoms include ear pain (sometimes severe), itching, hearing loss, jaw pain, tenderness of the ear canal, canal obstruction, and involvement of the pinna and surrounding skin (Schaefer and Baugh 2012). Otitis externa is both bone destroying and bone forming infection. Otitis externa can cause pitting on the external auditory meatus and surrounding temporal bone (bone destroying) or resorb the walls of the external auditory meatus (bone forming) (Purchase 2016, Mays and Holst 2006, Negreiros 2009). External auditory canal infections are classified into four stages by Negreiros (2009):

Stage I: canal epithelium hyperplasia

Stage II: presence of periostitis

Stage III: bony canal erosion

Stage IV: erosion of adjacent structures

Burials 42 and 55 exhibited lesions consistent with otitis externa. Burial 42 had pitting and active periostitis on the bone surrounding the external auditory meatus and inside the edge of the external auditory meatus including the postglenoid tubercle and suprameatal triangle (Figure 9.5.14). The tympanic part and vaginal process also had pitting, active periosteal reactions, and the size expanded inferiorly of the external auditory meatus. Burial 55 exhibited similar characteristics, but the porosity was more concentrated within and superior of the external auditory canal (Figure 9.5.15). The tympanic part was also expanded with large pits and periosteal reactions.

The presence of pitting and unhealed periosteal reactions indicates the presence of otitis externa in Burials 42 and 55 were active at the time of death of the individuals. The ear canal, tissues surrounding the ear canal, and behind the ear on both Burials 42 and 55 would have been red, swollen, and inflamed and for both individuals, it was probably a chronic condition. The presence of periosteal reactions inside the opening of the external auditory meatus also indicate the ear canal would also have been red and swollen and potentially have pus drainage from the canal.

Figure 9.5.14: Burial 42 Otitis Externa

Figure 9.5.15: Burial 55 Otitis Externa

9.5.3.1 Otitis Media

Otitis media is an infection of the middle ear. It affects the mastoid air cells, tympanic cavity, and eustachian tube (Purchase 2009). When untreated, the ear drum will burst, and the discharge of pus will settle in the middle ear and cause inflammatory changes in the ear ossicles (Roberts and Manchester 2005). In some cases, the abscess of the middle ear will burst through the temporal bone either to the exterior or the skull interior leaving a visible opening (Bouton 2010). If the discharge occurs internally into the skull, it can result in death (Roberts and Manchester 2005).

Burial 48 is the only individual that exhibited bony changes consistent with otitis media (Figure 9.5.16). An intracranial destructive lesion is present on the petrous of the temporal bone. This was the only opening through which the pus from the infection would have discharged and the discharge was intracranial. The edges of the lesion are sharp with no bone indicative of healing. Periosteal woven bone was not present surrounding the lesion. This is a possible cause of death for this individual.

Figure 9.5.16: Burial 48 Otitis Media

9.5.4 Developmental Defects

9.5.4.1 Spina Bifida

Spina bifida is a neural tube defect that occurs during fetal development in which the vertebral neural arches fail to fuse (Barnes 1994). Spina bifida of the sacrum is the most commonly reported defect and is recorded when the opening extends into the second or third sacral vertebrae or extends through all of the sacral vertebrae (Roberts and Manchester 2005). Genetic and environmental factors are potential causes and generally reflect the nutritional status of the mother during pregnancy. Deficiencies in folic acid (vitamin B12), zinc, and selenium are all potential causes for the development of spina bifida. Burials 6 and 9 exhibited neural arch defects indicative of spina bifida (Figure 9.5.17). In each case the neural arches for the first, second, and third sacral vertebrae did not develop.

Figure 9.5.17: Burial 6 Spina Bifida Occulta

9.5.4.2 Fused Carpals

Congenital fusion of the carpals is a common occurrence. The fusion of the lunate and triquetral will be focused upon in this developmental defect section since it was found in five individuals. Fusion of the lunate and triquetral centers occurs shortly after ossification begins in a single mass of cartilage (Wetherington 1961) and occurs during development of the wrist during childhood. Fusion is congenital because it is “five to seven times more often observed within lineages than chance alone would suggest” (Garn et al. 1971, Singh et al. 2003). The highest incidence in fusion of the lunate and triquetral occurs in individuals of African descent (Garn et al. 1971, Singh 2003), and among the African populations it occurs most often on the West coast, particularly Nigeria, and diminishes eastward across the continent.

The fusion of the lunate and triquetral occurred in Burials 4, 8, 9, 12, and 16 (Figure 9.5.18). All of these individuals were clustered on the southwest side of the cemetery. The hamate and pisiform were also fused in Burial 12. There is a distinct possibility these individuals are related or distantly related since the developmental defect has a strong familial trait and since it is observed five to seven times more often in lineages. This will be a specific research question for future research using aDNA and stable isotopes analyses of these individuals to look for genetic relatedness and to determine if there were all from the same area, respectively. These data could possibly indicate a bias in

incarceration practices either geographic or familial, such as the group incarceration of family of freed slaves.

Figure 9.5.18: Burial 12 Fusion of the Lunate and Triquetral Carpals

9.5.5 Comparison to known literature on prisoners

The diseases and evidence of malnutrition expounded upon in this chapter represent health insults that occurred during their fetal development through the time of death. Developmental defects, such as spina bifida occulta, are evidence of the mother's deficiencies during pregnancy, healing lesions indicate past deficiencies, and active lesions indicate the health status of the individual at their time of death. Of most importance for the interpretation of life at the L.A. Ellis camp are the active lesions at the time of death. While the individual may not have died directly from the health insult, it likely weakened and taxed immune systems making the individuals more susceptible to further health insults and death.

Historic records indicate the conditions within the prison camps were very poor to appalling. The prisons camps were required to provide adequate clothing, food, housing, and humane treatment (Perkinson 2010); however prisoners suffered shortages of food, clothing, medical care, and proper sleeping quarters, all of which could have helped ameliorate the otherwise hellish aspects of prison life (Walker 1983). In his book, *Texas Tough*, Perkins (2010) reports the majority of convicts complained of bug-infested and sometime rotten meals, wearing the same dirty clothes, and only receiving cornbread and "coffee" made from burnt cornbread crust. There is evidence from the

convict laborers themselves reporting on the types of foods eaten. A few stated they did not get enough to eat, but most had no complaint about the amount.

In the Texas Penitentiary reports of 1910 (Texas Legislature 2010), Jim Miller (inmate) stated they received beans, rice, coffee, bacon and occasionally greens and potatoes. R.C. Smith (inmate) noted meat biscuits, syrup and coffee, while Hugh Carter (inmate) said they were given navy beans, pumpkins, corn bread, bacon, greens, sweet potatoes, molasses, coffee and fresh beef once a week. However, Edgar Abbott (inmate) stated he received no vegetables for two months and C.H. Dickey (inmate) stated he received no vegetables for a year. John Lenz, an inmate at the Imperial Farm, reported he almost starved over the winter. He also stated they had little food, receiving about a half inch of coffee, two raw biscuits for breakfast, cold and hard cornbread, black-eyed peas, and water for dinner with little to no meat. When he had vegetables, it was turnip greens cooked in dirty water collected directly off the field.

For individuals at prison camps, sleeping and working conditions were also unhealthy. They were forced to work in the rain, dark, and mud, sometimes with no shoes, and sometimes without changing their clothes for 10 weeks (Perkinson 2010). J.H. Maddox noted that sometimes their wet clothes were frozen in the morning and they had to work in them (Texas Legislature 1910). Bed bugs were rampant in the housing (Texas Legislature 1910). Being sick did not help in many instances because they were made to continue working, even if they were unable to move, until they “dropped dead” (Perkinson 2010, Walker 1983). Hours were long, with some reporting they only received 4 hours of sleep (Texas Legislature 1910). Sugarcane harvesting was one of the most physically grueling tasks since there was a race against spoilage so work could not stop (Barrett and Blakey 2011).

It is unlikely the majority of the individuals sent to the prison camps were already sick. Evidence in the records show the private contracting companies wanted “first-class” black field hands (Perkinson 2010), who were healthy, able-bodied men that were capable of the strenuous work and would negotiate that sick or injured inmates had to be replaced (Perkinson 2010, Walker 1983).The reported diet of those at the prison camps would result in malnutrition, exposure to infectious diseases, and susceptibility to diseases. The limited diet of the convicts to bacon and cornbread with little to no vegetables will result in malnutrition and metabolic diseases.

The inmates would almost certainly have suffered from scurvy, a vitamin C deficiency, which may have contributed to death. Scurvy causes fatigue and decreased endurance in the early stages, with later stages resulting in leg edema, anorexia, poor wound healing, gum disease, hemorrhages, gingival swelling, and periodontitis (Hirschmann and Raugi 1999). The effects of vitamin C deficiency begin within 3 to 4 months of vitamin C missing from the diet. The first symptom is fatigue. At 134 days of vitamin C absent from the diet, skin changes occur, and by 180 days, wounds fail to heal. At 210-270 days, swelling and bleeding of the gums begins (Hirschmann and Raugi 1999). In prisoners, as reported in Hirschmann and Raugi (1999), vitamin C deficiency tests on prisoners from the Iowa State Penitentiary in the 1960s showed hemorrhages occurred as early as 43 to 105 days.

Pellagra, another metabolic disease, which manifests skeletally as periodontal disease, is caused by a niacin (vitamin B_3) deficiency and results in the three Ds: dermatitis, diarrhea and dementia

(Shaw 1962). Microscopic changes produced by this condition are not specific, however, making it difficult to confirm. High intake of corn will result in pellagra along with a lack of milk and greens, although coffee contains some B3 (Beck 1997). Overall, the diet described could have resulted in the numerous bony lesions present in the skeletal remains of those in the Bullhead Camp Cemetery.

Working in wet conditions and sleeping in wet clothes would have affected the presence of ear infections as seen in the skeletal remains at Bullhead Camp Cemetery. Otitis externa is termed “swimmers ear” which is often caused by water remaining in the ear creating a moist environment ripe for bacterial growth (Mays and Holst 2006). Inner infections, otitis media, is caused by inner infections from flu, viruses, smoke exposure, and mucosal irritants (Daly, Hunter and Giebink 1999). The environment in which the convicts would have exposed them to numerous conditions that could lead to ear infections.

Osteomyelitis, osteitis, and periostitis could have occurred from numerous incidents. Convicts wore shackles. The shackles could have rubbed the leg causing inflammation of the skin with subsequent infection penetrating the wound caused by the constant irritation. Additionally, any type of untreated cuts, injuries, etc. could result in the bone infections., an example is Burial 6 (see the trauma section).

From the historic records, most of the inmates died during the summer months (Figure 9.5.19). July was the deadliest of all the months during the year, due to the number of cases of stroke, drownings, and malaria. Winter deaths were mostly associated with pneumonia.

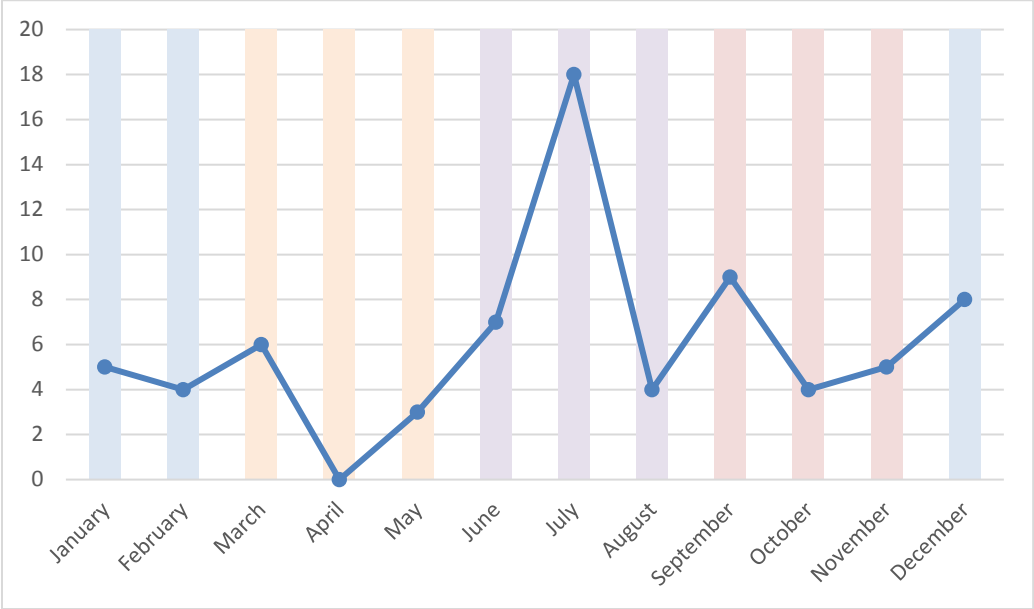


Figure 9.5.19: Number of Deaths Per Month from 1879 to 1912 at Bullhead Camp Cemetery

The causes of death vary widely (Table 9.5.3). Most are related to heart issues, fevers, and forms of congestion. The largest number of cases per cause of death listed are from pneumonia (n=10), sun stroke (n=9), and collapsed types associated with malaria (n=9). The majority of these causes of

death would not leave skeletal changes since they would be quick, unless underlying chronic conditions from metabolic or infectious diseases that would alter skeletal remains are responsible for, or contribute to, the frailty of the individuals and susceptibility to the condition. For example, severe vitamin C deficiency, seen in individuals with scurvy, can result in cardiac complications including heart block, chest pains, congestive heart failure, refractory hypotension leading to cardiac shock (frank shock) and death, as well as gastrointestinal hemorrhages (Hirschmann and Raugi 1999). The instances of heart failure, heart paralysis, heart clots, heart disease, internal hemorrhage, and dropsy (edema due to heart failure) have the potential to specifically be associated with the nutritional deficiencies and malnutrition evident at Bullhead Camp Cemetery, particularly if scurvy is identified in future studies. Malnourished individuals would also be more susceptible to sun stroke, illnesses such a pneumonia and malaria, and the differing causes of death related to congestion of the bowels, brain, etc. New bone formation on the endocranial surfaces of the skulls may be the result of meningitis and if the individual survives for a period of time with the condition (Roberts and Manchester 2005). The one cause of death of meningitis may be represented by one of the individuals with endocranial lesions.

Although not related to pathology, two individuals are listed to have drowned as their cause of death, listed as 10 July 1899. The Great Flood of 1899 occurred when 8.9 inches of rain fell between 17 June and 28 June (Handbook of Texas Online accessed June 27, 2020). By 7 July 1899, the Brazos River overflowed its banks submerging the town of Sartartia, where the L.A. Ellis camp was located and, according to the Houston Daily Post, dated July 8, 1899, reached the door of the L.A. Ellis camp store (Houston Daily Post 1899, Figure 9.5.20). It is highly likely these two individuals died as a result of this flood.

Table 9.5.3: Causes of Death Included the Following from Diseases and Malnutrition, Not Including Gunshot Trauma or Amputation

Type	Form of Incident	Number of Deaths
Abscess of liver & dropsy	Illness	1
Caught in machinery	Accident	1
Chronic diarrhea	Illness	1
Complications of illness	Illness	1
Congestion	Congestion	1
Congestion of bowels	Congestion	1
Congestion of brain	Congestion	2
Congestion of brain and stomach	Congestion	1
Congestive chill	Congestion	1

Congestive fever	Congestion	2
Congestive convulsions	Congestion	1
Consumption	Illness	1
Dropsy	Illness	3
Drowned	Accident	2
Dysentery	Illness	1
Epileptic convulsion	Illness	1
Heart clot	Illness	2
Heart disease	Illness	1
Heart failure	Illness	1
Internal hemorrhage and dropsy"	Illness	1
Malaria	Illness	3
Meningitis	Illness	1
Paralysis of heart	Illness	1
Pernicious malaria/malarial fever	Illness	4
Pernicious Fever	Illness	1
Pleurisy	Illness	1
Pneumonia	Illness	10
Pulmonary congestion	Congestion	1
Run over by Tram	Accident	1
Sun stroke	Illness	9
Tree fall	Accident	1
Typho malarial fever	Illness	1

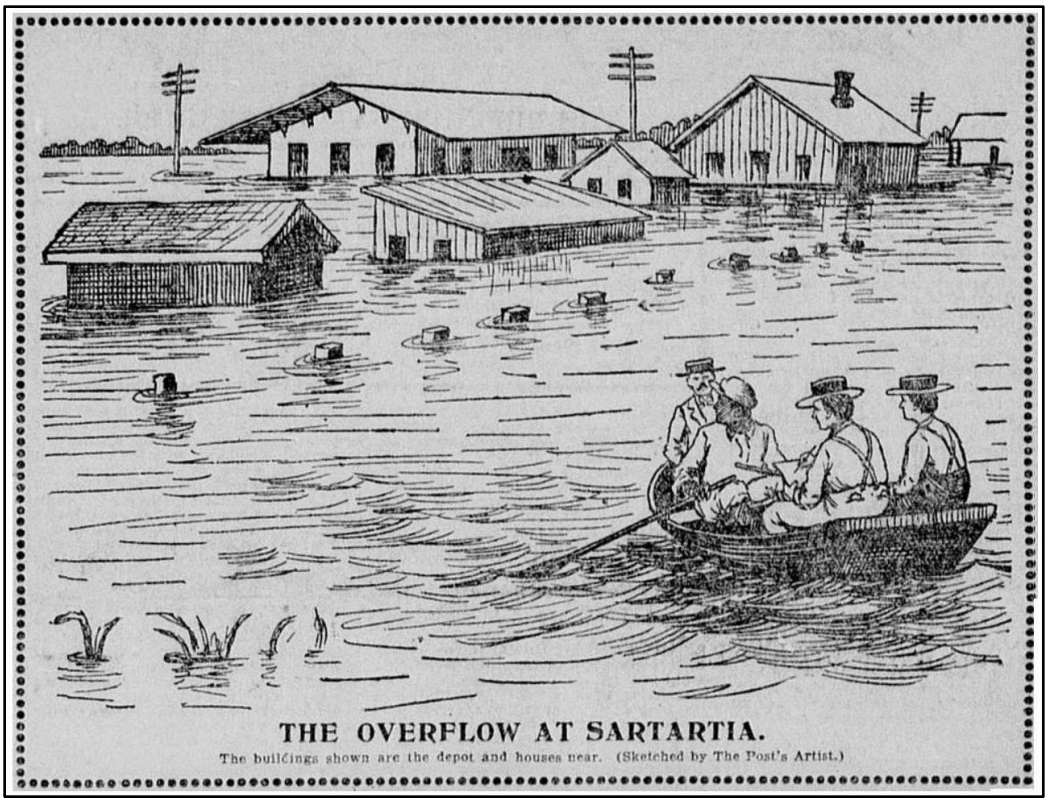


Figure 9.5.20: Drawing from the Houston Daily Post, 1899, of the Flooding at Sartartia

9.6 Biomechanical Stress

Changes to the bone occur when mechanical stress is applied. These types of changes can be a result of aging; however, they mainly reflect accumulative effects of mechanical stress from movement and loading on the bones and muscles. The added mechanical stress and loading of the bones and muscles results in hypertrophy of the tendinous and ligamentous attachment sites, skeletal degeneration, and trauma. This section will discuss the mechanical degeneration of the vertebra in the form of Schmorl's nodes, fractures of the vertebra, and muscle attachments sites with evidence of remodeling in the population at the Bullhead Camp Cemetery.

9.6.1 Schmorl's nodes

Schmorl's node, or intraspongious vertebral herniation, is the herniation of the nucleus pulposus out of the wall of the intervertebral disk into the cancellous bone of the vertebrae causing inflammation. Schmorl's nodes are caused by excessive loading, excessive weight-bearing, flexion and lateral bending while lifting heavy objects and are associated with physical activity while the vertebral column is flexed (Capasso, Kennedy, Wilczak 1998, Morgan 2015). These herniations are excessively painful, with new herniations causing pain for 6 to 8 weeks (Morgan 2015). Capasso, Kennedy, and Wilczak (1998) note that the presence of Schmorl's nodes in young people indicates continuous working activity, such as farming.

Based on the frequencies by age group at the Bullhead Camp Cemetery, Schmorl's nodes are not limited to older age groups. Schmorl's nodes are most frequent in the 20-24.9 age group and several

incidents occur in the 15-19.9 group (Figure 9.6.1). This indicates that these individuals are being subjected to excessive weight bearing loads and lift heavy loads. It is unclear if these lesions were obtained before or after entering prison. However, it does indicate that many of the individuals were participating in hard, manual labor from an early age, with many working in farming or as general laborers.

Table 9.6.1: Vertebral Compression Fractures and Schmorl's Nodes Frequencies for the Whole Population at Bullhead Camp Cemetery

	Compression Fractures	Schmorl's Nodes
Present	17 (22%)	26 (33%)
Absent	59 (78%)	52 (66%)
Total	76	78

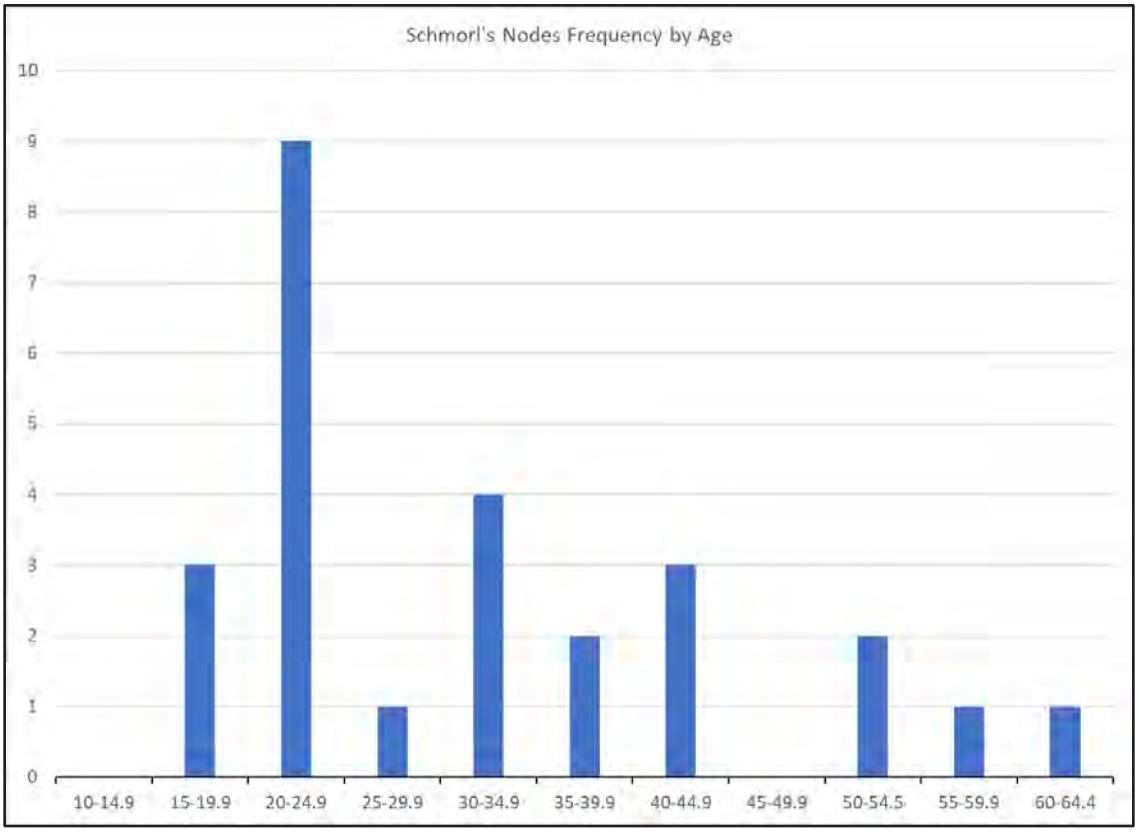


Figure 9.6.1: Frequency of Schmorl's Nodes by Age Group

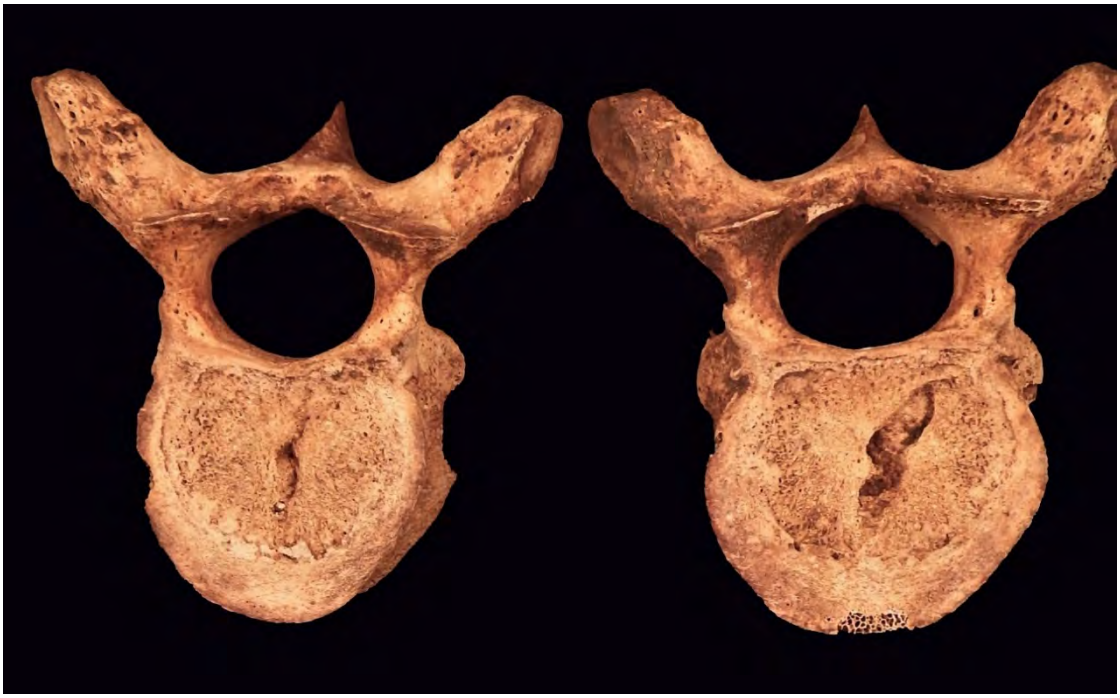


Figure 9.6.2: Schmorl's Nodes from Burial 27.

9.6.2 Compression fractures

Compression fractures of the vertebrae are generally associated with a sudden and excessive impact. Most fractures of the vertebral bodies are caused by compression fractures (Ortner 203). These fractures tend to compress the anterior half of the vertebrae. The fracture can result in complete loss of height of the vertebral body or an angular, wedge-shaped body.

Compression fractures were found in 22% (17 of 76) of the observable individuals at the Bullhead Camp Cemetery. Most of those with compression fractures had more than one vertebra impacted. Compression fractures occurred among several age groups and occurred as frequently in the 20-24.9 group as those 40-44.9 and 50-54.9 age groups (Figure 9.6.3). Thus, it was not limited to only older individuals, as younger individuals also suffered from compression fractures, even some as young as 15-19.9 years of age. This indicates, as with the evidence of Schmorl's nodes, that younger individuals were also subjected to heavy workloads and dangerous labor situations that would cause fractures in the vertebrae. Many of the individuals listed as dying at the L.A. Ellis prison camp were convicted for theft of mule, horse, or cattle; burglary; assault; and other crimes that indicate they may have been situations that could lead to sudden impacts of the vertebrae. Alternatively, these fractures may have been associated with a lifestyle working with livestock or farming.

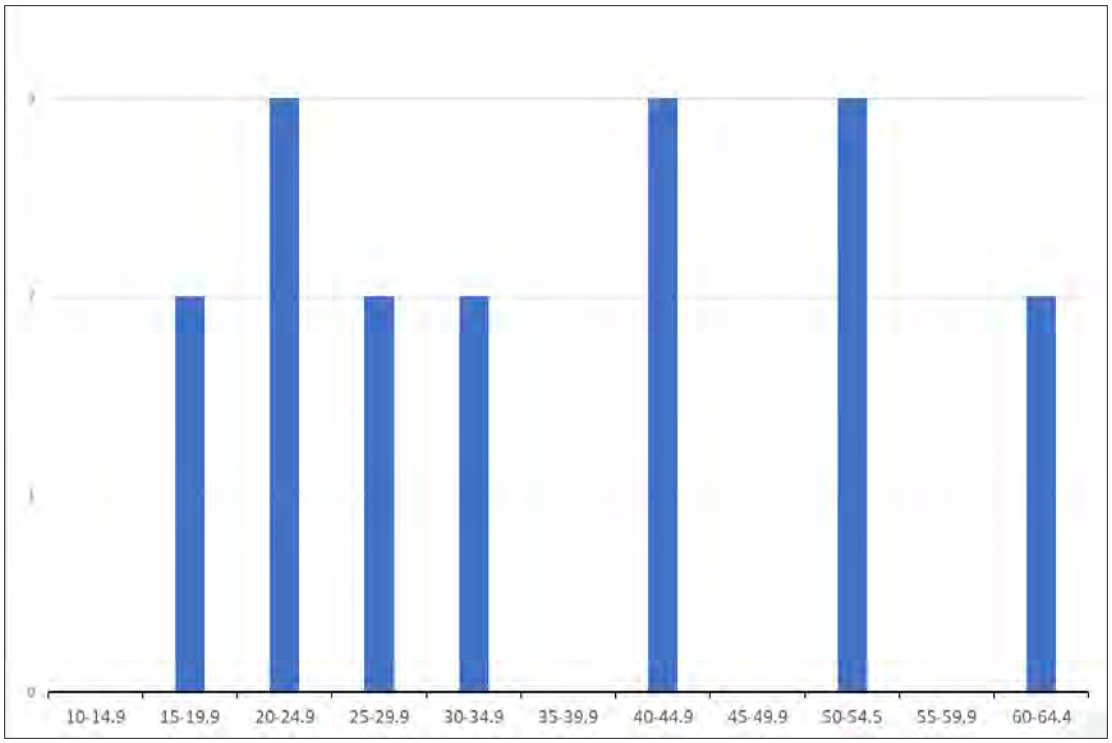


Figure 9.6.3: Frequency of Compression Fractures by Age Group

9.6.3 Musculoskeletal Stress Markers (Entheseal Changes)

The presence of osteoformative lesions and osteolytic lesions at the muscle tendon and ligament attachments sites on bone are a common response to work-related injuries. These lesions provide the ability to reconstruct the prevalence and degree of stress endured among the individuals who suffered repetitive incidences of elevated mechanical stress and loading. The pattern of work stress is of particular interest for the population at Bullhead Camp Cemetery because it can provide information on the physical labor of individuals before and during their incarceration. A difference between individuals born during slavery and those born after slavery is expected. Those who lived as slaves would have the mechanical stresses associated with the hard labor required of slave labor. In contrast, post-slavery African Americans in the southern United States would have had options for a variety of other jobs not requiring the physical labor of farming (Tiné 2000). While the lack of aDNA analysis prevents a full exploration of this hypothesis, the prevalence of extreme biomechanical stress may indicate individuals not accustomed to the type of strenuous and extreme conditions placed on the body working in sugar production at the prison camp. Captain T. C. Blakeley noted that some of the “boys” sent to the camps were not mature enough to do this type of heavy labor (Texas Legislature 1910), indicating that many of the individuals sent to prison camps were either not accustomed to heavy labor or were simply too young to be forced into the extreme labor needed on the sugar prison camps. To explore this hypothesis, the frequencies of musculoskeletal stress lesions per bone location and the types of stresses that may have caused these lesions will be assessed.

Musculoskeleal stress markers (MSM) are identified by the remodeling of the bone that occurs at muscle-to-bone and tendon-to-bone attachments (Cashmore and Zakrzewski 2011). Bone remodeling takes place due to increased capillaries that supply blood to the periosteum, the thin covering over the bone, which can lead to bone-forming (osteophytic) activity. This creates rugged crests of bone and presence enthesophytes, which is abnormal bone formation at the site of a ligament or tendon in the area at the muscle or tendon attachments. Bone erosion and reabsorption (osteolytic) processes result when a bone is stressed beyond its natural capabilities, creating pits and furrows in the bone surface (Cashmore and Zakrzewski 2011). Both are termed enthesophytes, whose formation is an example of a habitual muscle use and robusticity (Hawkey and Merbs 1995). For the analysis of MSM on the population at the Bullhead Camp Cemetery, scoring followed the recommendations of Mariotti, Facchini, and Giovanna Belcastro (2004), separating the scoring into osteolytic formation and osteophytic formation. The degree and type of marker is related to the duration and amount of habitual stress placed on that specific muscle (Hawkey and Merbs 1995). Musculoskeletal stress markers were scored as follows:

Osteophytic formation (OF)

0. Absence of exostotic formations
1. Minimal exostosis (<1mm)
2. Clear exostosis (1-4 mm)
3. Substantial exostosis (>4mm)

Osteolytic formation (OL)

0. Absence
1. Presence of fine porosity (holes <1 mm diameter)
2. Diffuse porosity, with holes ca. 1mm in diameter/presence small area of erosion (ca. 4mm in length or diameter)
3. a. presence of several small areas of erosion (ca. 4mm in length or diameter)
   b. at least on extensive and deep osteolytic area (>4 mm in length or diameter)

Scores reported in Table 9.6.2 include those that were most observable in the osteophytic and osteolytic categories. Osteophytic and osteolytic scores were not combined because the size and severity of these lesions are distinct enough to score separately. OL3a and OL3b were combined in to one score, listed as OL3.

Most of the observable changes in the population at Bullhead Camp Cemetery are in the upper arm, focusing on the shoulder, elbow, forearm, and hand. A few changes are noted for the hip, knee, and foot. Muscle attachments in the upper arms will be more reflective of occupational activities due to the habitual use from heavy lifting and carrying. The most severe form of osteolytic lesions (OL3) is most prevalent in the costoclavicular ligament attachment in the clavicle with 31 (43%) of the individuals scored having this degree of lesion. This lesion occurs when there is general stress on the pectoral girdle when the shoulders are bent forward while bending to move heavy loads, such as individuals that used hand plows, d, carried heavy weights hanging from their shoulders, builders, sailors, and kayaker's (Capasso et al. 1999). Other lesions with large percentages of OL3 scores include the pectoralis major of the humerus (18%), m. deltoideus of the clavicle (18%), and the gluteus maximus of the femur (15%, Table 9.6.2). OL2 lesions were also present in 27% of the m.

deltoideus of the clavicle measured, indicating 45% of the individuals had osteolytic lesions of the m. deltoideus. The m. deltoideus' primary action is to flex the arm, internally rotate the arm at the shoulder, and to extend the arm at the shoulder. Each of these motions are used when carrying heavy loads, particularly with both hands (Capasso et al. 1999).

Osteophytic formation lesions are more prevalent than osteolytic formations. Most of the change are present in the shoulder. The highest scores are found in the conoid ligament of the clavicle (OF2 25%, OF3 18%), m. pectoralis major of the humerus (OF2 26%, OF3 28%), m. deltoideus of the humerus (OF2 29%, OF3 21%), and scapular m. triceps brachii (OF2 28%, OF3 22%). The changes in the elbow are most distinct in the humeral m. brachioradialis (OF2 27%, OF3 44%) and extensor carpo radialis longus of the radius (OF2 28%, OF3 47%). The combination of all of these lesions indicate many of the individuals had generalized humeral hypertrophy. Hypertrophy of the shaft, broadening of the epicondylar width, and development of robust muscle attachments are all indicative of this general hypertrophy (Capasso et al. 1999, Figure 9.6.4). The factors that cause such changes include extreme habitual stress to the limb utilizing a wide range of motion, all which would be found in physical laborers such as farm-hands, and indicated they were extremely muscular and lifted heavy objects for a long time, perhaps all their life.

Figure 9.6.4: General Hypertrophy of the Humerus. General Hypertrophy is Present in the Top Humerus and Absent in the Bottom Humerus

Hypertrophy of the pectoralis major of the humerus and the brachialis of the ulna are indicative frequent lifting and carrying a load with the forearms bent (Capasso et al. 1999). This was found in the New York African Burial Ground where the occupations ranged from laborer, domestic worker, tradesman, and soldiers. Hypertrophy of the supinator crest of the ulna indicate pronation and supination of the forearm while the arm is extended. Such changes are associated with activities that requires repetitive motions, such as fruit picking or chopping with an axe, but do not include the forceful extension of the arm (Capasso et al. 1999). Changes in the hand of the flexor digitorum superficialis, which are attachments for the flexor ligaments on the middle phalangeal on the palmar

surface were present in 29% (OF2) and 12% (OF3) of the individuals at Bullhead Camp Cemetery. These changes reflect grasping or holding a tool or instrument (Capasso et al. 1999).

Overall, the majority of the severe changes in musculoskeletal stress markers are found in the upper arm. These are changes consistent with carrying heavy loads with the arms or on the shoulders and movements associated with grasping and moving the wrist. There is an indication of carrying loads with the arms in front of the body, but the m. supinator changes in the ulna at this location scored an OF2. It is likely this population entered the prison system already used to heavy labor. To date, there are no known studies which focus on connections between the osteolytic lesions and individuals required to do strenuous and heavy labor tasks without the opportunity to build the muscle strength necessary to carry out that labor for extended hours for months or years. It is unknown if this is a possible cause for these types of lesions.

Table 9.6.2: Musculoskeletal Stress Marker Scores by Body Area, Bone, Muscle Attachment and Score

Body Area	Bone	Muscle Attachment	OF2		OF3		OL2		OL3		Total
Shoulder	Clavicle	Costoclavicular	2	3%	2	3%	6	8%	31	43%	72
		Conoid	18	25%	13	18%	1	1%	0	0%	71
		Trapezoid	8	12%	4	6%	3	5%	1	2%	66
		M. pectoralis major	15	20%	6	8%	0	0%	0	0%	75
		M.deltoideus	8	11%	5	7%	20	27%	13	18%	73
	Humerus	M. Pectoralis major	20	26%	21	28%	10	13%	12	16%	76
		M. lat. dorsii/ teres major	14	18%	3	4%	4	5%	1	1%	78
		M. deltoideus	23	29%	17	21%	1	1%	0	0%	80
	Scapula	M. triceps brachii	14	28%	11	22%	1	2%	0	0%	50
		Deltoid	3	12%	6	23%	0	0%	0	0%	26
Elbow[1]	Humerus	M. brachioradialis	21	27%	35	44%	0	0%	0	0%	79
		Extensor carpo radialis longus	21	28%	35	47%	0	0%	0	0%	75
	Radius	M. biceps brachii	12	17%	4	6%	0	0%	2	3%	71
	Ulna	M. triceps brachii	6	8%	4	5%	0	0%	0	0%	76
		M. brachialis	7	9%	5	6%	12	15%	5	6%	80
Forearm[2]	Radius	M. pronator teres	7	9%	1	1%	4	5%	1	1%	74
		Interosseous membrane	15	20%	2	3%	1	1%	0	0%	75
	Ulna	M. supinator	31	41%	8	11%	0	0%	0	0%	76
Hand	Phalanx	flexor digitorum superficialis	25	29%	10	12%	0	0%	0	0%	85
Hip	Femur	M. gluteus maximus	16	19%	11	13%	19	23%	13	15%	84
		M.iliopsoas	12	17%	5	7%	0	0%	0	0%	71
		M. vastus medialis	21	27%	15	19%	0	0%	0	0%	78
Knee	Tibia	Quadriceps tendon	13	19%	4	6%	0	0%	0	0%	68
	Patella	Quadreceps tendon	4	5%	1	1%	0	0%	0	0%	81
	Tibia	M. soleus	14	18%	9	12%	5	7%	5	7%	76
Foot	Calcaneus	Achilles tendon	17	28%	10	17%	0	0%	0	0%	60

Body Area	Bone	Muscle Attachment	OF2		OF3		OL2		OL3		Total
		Abductor hallicus	3	5%	1	2%	0	0%	0	0%	60

[1] flexion/ extension

[2] pronation/supination

9.6.4 Comparisons and Conclusions

As with the individuals from Bullhead Camp Cemetery, individuals at the Freedman's Cemetery (Tiné 2000) and the New York African Burial Ground (Wilczak et al. 1998) show evidence of extreme stress lesions in the upper arms associated with heavy labor. The evidence of Schmorl's nodes and compression fractures in young individuals at Bullhead Camp Cemetery indicate that these individuals either obtained these lesions while incarcerated and forced to endure grueling heavy labor associated with sugarcane cultivation or had been subjected to similar labor before imprisonment. In either case, these individuals faced extreme situations. The musculoskeletal stress markers indicate that many of these individuals performed very strenuous labor during their lifetime. These changes were not only evident in older individuals, but individuals as young as 15 years of age. Future research will focus on comparing scores and osteological changes within each individual to obtain a more complete picture of each person's life history.

9.7 Trauma and Injury

Trauma injuries are the result of forces applied to bone with enough force and velocity to fracture or break the bone (Galloway et al. 1999). Trauma can occur through several different means including blunt force trauma, sharp force trauma, and gunshot/projectile trauma. Blunt force trauma is a low-velocity impact on a large surface and generally occurs when one is hit with items such as clubs, sticks, tire irons, or by falling on the ground, etc. Sharp force trauma is inflicted with sharp, narrow force. This force results in punctures, incisions, or clefts in the bone and is caused by sharp instruments such as knives, saws, axes, or picks. Punctures are the result of vertical force, while incisions, such as using a saw, result on long cuts across the surface of the bone. Projectile and gunshot wounds are the result of a projectile that penetrates the surface of the bone leaving an indention or completely penetrating the bone, depending upon the amount of force and the size of the projectile. Fracture lines may be present, or the bone may shatter. Different caliber bullets, bullet shape, construction, and composition, such as lead, jacketed, or hollow point, result in differences in wound shape (Byers 2016) .

Depending upon the type of fracture and associated characteristics, skeletal trauma can be sorted into each category. From this, an estimate of the manner in which the trauma occurred can be ascertained. This includes the size, shape, and form of the fracture.

9.7.1 Timing

As trauma may be sorted by manner in which the trauma occurred, it may also be divided into three relative temporal periods: antemortem, perimortem, and postmortem. Antemortem trauma occurs before death, perimortem occurs around the time of death, and postmortem injuries occur after death.

Antemortem fractures are determined by evidence of healing before death (Byers 2016; Galloway et al. 1999). Fracture healing occurs in stages, with formation of a hematoma, hematoma organization, primary bony callus formation, primary callus transforming to a secondary callus in the form of lamellar bone, and finally remodeling and reduction of the callus (Ornter 2003). While several factors affect the amount of time for the bone to heal, such as severity, angle of the broken ends to each other, nutritional status, age, and stability, the primary callus takes approximately six weeks to develop, three to four months to heal into lamellar bone (in adults), and one to four years for the callus to remodel into a fully healed fracture (Galloway et al. 1999; Ortner 2003) .

Complications can also arise during the healing process. If the soft tissue is penetrated such that a bone end extrudes through the skin or a knife, bullet, projectile, or blunt instrument pierce the skin, infectious agents can enter the wound. This can cause gangrene, necrosis of the tissue, bone remodeling, or form pus (Ornter 2003). Necrosis will form a sequestrum, or segment of dead bone. Infection results in large callus mass with porous bone. Long-term chronic infections in the bone will result in cloaca which is a hole in the bone allowing the pus to escape. A corresponding sinus develops allowing the pus to escape through the skin. Based on the development of a callus and the extent of the remodeling and/or the presence of expanded porous bone, cloaca or a sequestrum can indicate the passage of time that has elapsed since the trauma occurred, although an exact amount of time cannot be determined.

Perimortem injuries occur around the time of death. Unlike postmortem injuries, perimortem fractures occur when the bone still has a high moisture content and is flexible due to the presence of collagen and tissue (Galloway et al. 1999, Raul et al. 2008). Perimortem injuries have no evidence of healing, have sharp edges, hinging, do not fracture at right angles, and form fracture lines that do not occur in dried bone (Byers 2016). Postmortem fractures can occur around the time of death and can exhibit perimortem trauma characteristics; however, the type of damage may be able to be distinguished in many cases. Breakage postmortem is characteristic in that it occurs in dry bone and the fractures are jagged without staining of the bone fracture surface. Postmortem damage will not be discussed.

9.7.2 Evidence in the Bullhead Camp Cemetery Population

Trauma occurs in many of the individuals from Bullhead Camp Cemetery. Types of trauma include healed fractures, active healing fractures with callous, perimortem fractures, healed and infected gunshot trauma, and perimortem trauma. Some individuals have more than one type of trauma or have perimortem trauma to multiple bones. Fractures include greensticks fractures, which are not complete breaks, fractures caused by a fall from great heights, depression fractures from impacts, and complete fractures that break the bone into two sections.

Of the 95 individuals, 37 had evidence of trauma (40%). Multiple trauma incidences occurred in nine individuals. Four individuals suffered perimortem gunshot trauma and five individuals had antemortem gunshot trauma, one with evidence of infection from the wound. Of those who died from gunshot trauma, all were killed with a shot gun. The cause of death and weapon identification are based on the presence of shot gun pellets found with the remains and the ability to refit the pellets with each wound. One individual died after amputation of the lower right leg.

Trauma occurred most frequently in the hands, of which 16 incidences were identified (Table 9.7.1). Of these sixteen incidences, eight were healed, and it was not possible to determine if these occurred while incarcerated or before incarceration. Two incidences were actively healing trauma fractures that may have occurred during their incarceration at the prison camp, however, this will depend upon the amount of time these individuals spent at the prison camp. Two were healed gunshot defects, with metal fragments from the bullets/shot gun pellets still in the bone. Last, four individuals had perimortem gunshot defects to the hand that were caused by a shot gun. The pellets were present. These individuals were shot while at the prison camp and died as the result of their shotgun wounds that also occurred elsewhere in the body. One individual was shot multiple times by a shotgun.

Fractures to the arms and feet were present in nine individuals, eight in the legs (Table 9.7.1). Of the leg fractures, which included the femur, tibia, and fibula, six had healed fractures and two had actively healing fractures that may have occurred while at the prison camp. Arm fractures included two healed fractures, one actively healing fracture, one perimortem fracture of the radius and ulna, and five individuals with perimortem shotgun trauma. The perimortem injuries likely caused the death of the individual while at the prison camp. Feet fractures include four healed fractures, one actively healing fracture, one healing shotgun defect with infection that affected the tarsals and proximal ends of the metacarpals, and one perimortem shotgun defect to the right ankle causing the death of the individual.

The majority of bone trauma present was healed fractures (Table 9.7.1). Healed fractures were found in 32 bones. The second highest number of bones/areas of the body affected by trauma were caused by perimortem gunshot wounds, however it is important to remember five individuals died from perimortem gunshot trauma.

Table 9.7.1 Number of Incidences of Trauma Per Bone and Type of Trauma

	Fracture			Gunshot		Total
	Healed	active	Perimortem fracture	Healed/infected gunshot wounds	Perimortem gunshot wound	per area of the body
Hand	8	2	0	2	4	16
Arm	2	1	1	0	5	9
Feet	4	1	0	1	3	9
Leg	6	2	0	0	0	8
Vertebra	4	0	0	0	2	6
Ribs	1	2	0	0	2	5
Skull	4	0	0	1	0	5
Clavicle	2	0	0	1	0	3
Neck	1	0	0	0	0	1
Innominates	0	0	0	0	1	1
Scapula	0	0	0	1	0	1
Total	32	8	1	6	17	64

9.7.3 Specific Trauma Cases

Several cases of trauma will be highlighted to further discuss the types of trauma affecting the individuals at Bullhead Camp Cemetery. Healed antemortem fractures will not be discussed, rather discussions will be focused on gunshot trauma, actively healing fractures, and perimortem injuries. These are associated with activities occurring at the prison camp, may have occurred at the prison camp, or gunshot wounds that would have affected movement and strength as well as resulting in death of the individual.

9.7.3.1 Perimortem Trauma

The individual in Burial 32 died with a perimortem compression fracture and possible crush injury of the right arm. The right ulna and radius had compression forces press down on both bones from each side resulting in numerous complete breaks (Figure 9.7.1). The middle third of the long bone shafts were shattered into several fragments, each with staining on the fractured edges, confirming the perimortem breaks.

The injury may be classified as a crush injury to the arm due to the high number of fragments and location of the injury in the middle of the lower arm. The activities associated with harvesting and processing sugarcane make this part of the arm vulnerable to injury. Since the bone break direction is coming from both sides of the radius and ulna, bending towards the middle of the arm, it is likely this injury is associated with moving machine parts or something falling on the arm crushing it between two hard surfaces.

Several pieces of equipment were used to process sugarcane in the 19th century, but one particular piece of machinery would cause such an injury and the design is renowned for causing these types of injuries. The sugarcane press consists of two large, metal rollers that were mule or steam powered. The sugarcane was squeezed between these rollers to extract the juice. This machine is similar to washing machine wringers that used two rollers to squeeze out excess water from clothes after washing. It is this washing machine to which this specific injury is named, called a wringer injury. It is a well-known to be caused to the arm or hand getting caught between the rollers of the wringer. An arm or hand caught in the wringer machine could receive abrasions, bruising, compression resulting in skin and muscle contusions, fractures, hematomas, and forces that separate the skin from the blood supply (Allen 1941, Golden, Fisher and Edgerton 1972). Reports also include subcutaneous fat liquification and damage to the muscle, skin, and nerves, and vascular obstruction (Golden, Fisher and Edgerton 1972). These injuries were caused by washing machine wringers that were lower powered than the steam or mule driven sugarcane presses, indicating the plausibility of getting an arm caught in a sugarcane grinder with a similar resulting injury.

The perimortem, crush injury of the arm is plausible as a cause of death. Crush trauma can be life-threatening and may result in crush syndrome, or the release of muscle cell contents into circulation after breakdown following prolonged immobility, resulting in acute kidney injury and death (Genthon and Wilcox 2014). Crush injuries, which are typically severe, can also result in fat embolism, fat embolism syndrome (Lindeque et al. 1987), and shock (Duncan and Blalock 1942) which, in return, can result in death.

Figure 9.7.1: Burial 32 Compression Fracture of the Right Ulna and Radius

Figure 9.7.2: Burial 32 Compression Fracture of the Right Radius and Ulna with Breaks Separated

Figure 9.7.3: Sugarcane press ca. 1900
Gadsden County, Florida (Dixon ca. 1900)

9.7.3.2 Amputee with Antemortem Gunshot trauma

Burial 39 presented with multiple traumas. This individual had several actively healing, healed, and/or infected fractures and gunshot defects. Gunshot trauma was evident on the left proximal 2nd phalanx with fragments of shot still embedded in the bone (9.7.4 and 9.7.5). The bone had evidence of severe infection that resulted in a cloaca to release pus from within the defect. The infection and cloaca were likely caused by secondary infection resulting from the gunshot defect. A fracture to the 6th right rib occurred close to the time of death; The timing estimate is based upon the presence of a large callous formation. A healed fracture of the right ulnar styloid process had osteophyte growth around the circumference of the process.

Burial 39 had the only evidence of amputation at Bullhead Camp Cemetery. The right leg was amputated midshaft of the tibia and fibula, at the shin. Periosteal reactive bone was present on the tibia and fibula shafts superior of the amputation, indicative of active infection at the time of the amputation. Evidence of amputation included saw marks on the bone as well as a breakaway spur of on the fibula (Figure 9.7.6 and 9.7.7). Fine lines across the surface indicate the use of a saw to cut the bones. The breakaway spur occurs when there is breakage from the final cutting stroke (Byers 2016). The lack of false starts even saw marks and presence of the breakaway indicate the individual performing the amputation was skilled and cut quickly, however an analysis of the cut mark can provide more information. The angle of the cutmarks and the location of the breakaway spur indicate the leg was amputated with the right leg rolled laterally on the outside of the leg and the cut started in the top inside of the shin to the outside of the leg.

It is probable trauma of the hand, rib, and leg occurred at the same time and from the same incident, resulting in infection and subsequent amputation of the leg. This is estimated from the presence of an infected gunshot defect to the hand that had a pus producing cloaca, a healing broken rib, and infection at the location of the amputation. It is highly possible this individual was shot while at the prison camp and infection resulted in the amputation of the lower leg and death.

Figure 9.7.4: Burial 39 Gunshot Trauma with Cloaca of the Left 2nd Proximal Phalanx

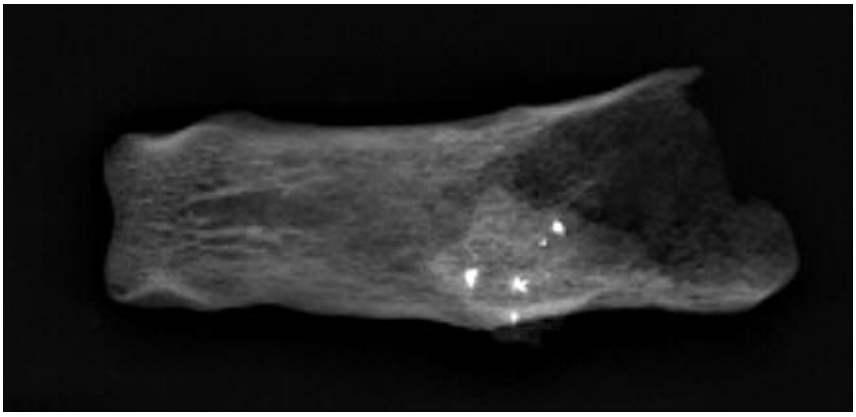


Figure 9.7.5: Burial 39 Radiographs of Gunshot Trauma with Cloaca of the Left 2nd Proximal Phalanx

Figure 9.7.6: Burial 39 Amputation of Fibula with Breakaway Spur

Figure 9.7.7: Burial 39 Amputation of Tibia with Evidence of Cut Marks

9.7.3.3 Antemortem Gunshot Trauma

Five individuals had evidence of healed gunshot trauma with no evidence of perimortem trauma that could identify the cause of their death. In some cases, the defect would have been cause by a direct gunshot wound to the individuals, while others appear to be the result of splintered fragments of bullets that pierced the bone. In most of these instances, the bullet fragments were not visible and

were only detected with radiographs. There is the potential these individuals were shot while incarcerated at Bullhead Camp Cemetery, however it is also possible they were shot before entering the prison system.

9.7.3.3.1 Burial 64

Burial 64 had healed trauma to the 3rd and 4th metacarpals. No additional trauma injuries were present on this individual. The bullet fragments in the bone are small and probably resulted from a bullet splintering after hitting another object before contact was made with the hand (Figure 9.7.8). Proliferative bone is present at the impact point of the metal fragments. However, the bone is healed. This injury could have caused decreased agility of the hand depending upon the amount of tissue damage that was associated with the injury.

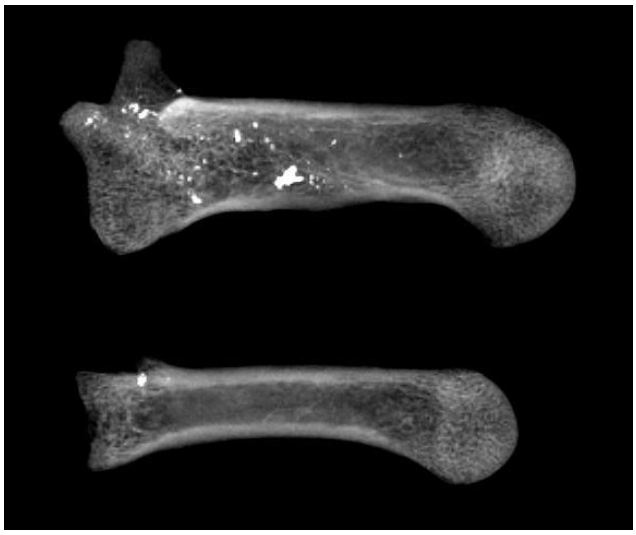


Figure 9.7.8: Burial 64 Radiographs of Gunshot Trauma with Metal Fragments In the Bone

9.7.3.3.2 Burial 49

Burial 49 had evidence of multiple types of trauma. Healed blunt force trauma was present on the right 6th, 7th, and 8th ribs and gunshot trauma to the left scapular spine (Figures 9.7.9 and 9.7.10). Initially, these were both thought to be caused by blunt force trauma, possibly from whipping/flogging, however, radiographs revealed fragments of metal in the scapular spine around the trauma injury. The placement, scatter, and size of the metal fragments indicate this injury was caused by a bullet that would have likely hit another object before splintering and hitting the bone. There is also the potential the bullet, probably a shotgun pellet, that hit the bone, fragmented and left small metal fragments in the bone. The angle of the gunshot defect indicates the bullet was traveling superior to inferior on the scapular spine, nicking the edge of the spine. It is possible this individual was laying down or bent over when shot with the scapular spine exposed.

The trauma on right ribs 6, 7, and 8 was caused by a single event moving in a direction superior to inferior (head to toe) and angling left to right (Figure 9.7.11). Rib 6 was struck first and there are associated cuts or scrapes along ribs 7 and 8 that impacted the bone, leaving bone growth at the trauma sites. The strike would have come from behind the person because of the location of the trauma. The trauma could have been caused by flogging, which was a method of punishing slaves and prison convicts, or some other type of thin blunt instrument capable of being swung in a downward manner.

Figure 9.7.9: Burial 49 Gunshot Trauma to the Left Scapular Spine

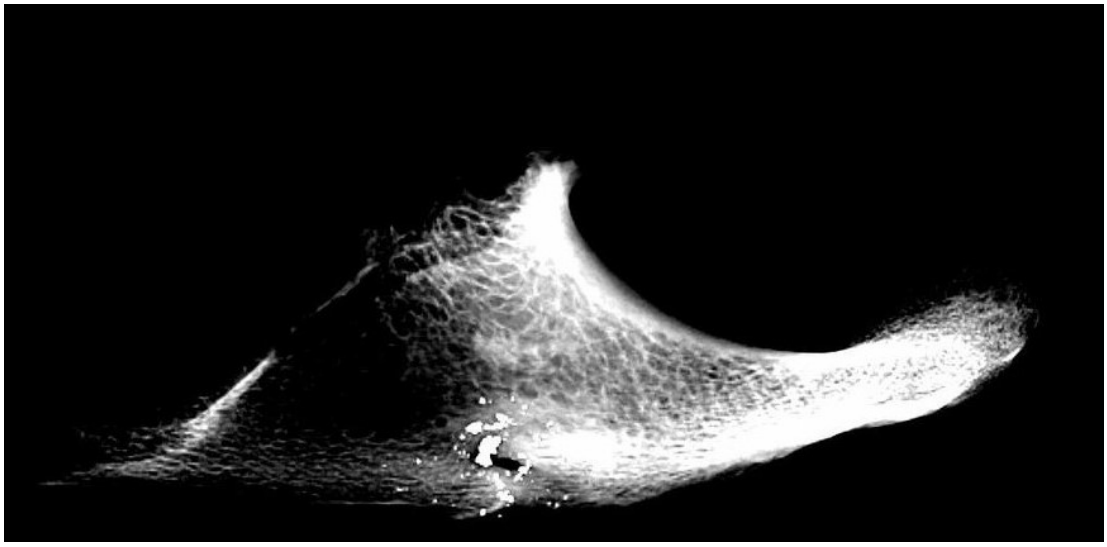


Figure 1.7.10: Burial 49 Radiographs of the Gunshot Trauma to the Left Scapular Spine with Metal Fragments Still in the Bone.

Figure 9.7.11: Burial 49 Blunt Force Trauma to the Right Ribs 6, 7, and 8

9.7.3.3.3 Burial 26

Trauma is present on the right zygomatic and right mandibular condyle in Burial 26. The trauma to the right mandibular ramus is the result of gunshot trauma with fragments of metal still embedded in the bone (Figure 9.7.12). The defect became infected leaving an abscess with three cloacae extending from the deep abscesses area. The traumatic injury to the right zygomatic was healed, but the zygomatic was reduced in size and irregularly shaped.

The angle of the gunshot defect to the mandible indicates the bullet/metal fragments, entered the mandibular ramus superior to inferiorly, or in the direction of the top of the skull downward. There was no evidence of bullet fragments entering the mandibular ramus from the lateral side of the bone. Although no metal fragments are present in the zygomatic, it is likely the right zygomatic was also broken by the gunshot. It is possible the bullet hit the zygomatic first, fracturing the bullet/shotgun pellet before it proceeded to enter the mandible. It is indeterminable if the bullet lodged in the mandible and was removed or if fragments of metal only entered the mandible due to the amount of reactive and remodeled bone and evidence of abscess and cloaca obscuring the initial defect.

There would have been significant pain associated with the trauma. The presence of three cloaca in association with woven bone and periosteal reactions indicate active pus formation and drainage. The cloaca was present on the buccal and lingual sides of the mouth. One cloaca extended to the middle of the mouth and throat area and did not extrude to the outside of the body, resulting in drainage internally in the mouth and throat. The other two were small and drained to the outside of the cheek and should have left a mark on the face. The lesion was 22.74 mm deep at the largest

measurement. The ascending ramus was enlarged, and bone growth extended from the floor of the defect.

Figure 9.7.12: Burial 26 Gunshot Trauma to the Right Mandible with Metal Fragments in the Bone.

9.7.3.3.4 Burial 18

Burial 18 has a set of traumatic injuries that likely occurred at the same time due to the severity and location of the defects. A healed gunshot defect to the right clavicle is present with fragments of shot still embedded in the bone (Figure 9.7.13 and 9.7.14). The left femoral head has a healed compression fracture and an incomplete basicervical healed fracture of the neck at the inferior portion of the neck (Figure 9.7.15) and the associated acetabulum of the left innominate has an anterior rim fracture (Galloway 1999). There is an incomplete sacralization of the extra lumbar vertebra 6 with compression fracture and osteophytic growth at the left articulation (Figure 9.7.16, Galloway 1999). There are healed compression fractures on thoracic vertebrae 7, 8, 9, and 10.

Fractures found in the femur and acetabulum occur from a fall with a blow to the greater trochanter (Galloway 1999). The impact was not severe enough or did not hit at the right angle to result in complete dislocation of the femoral neck anterior wall of the acetabulum but was powerful enough to cause fractures and complete dislocation of a section of the anterior acetabular wall. The compressive forces from a fall would also affect the partially sacralized lumbar joint. Thus, a fall from a height would explain the fracture patterns in the vertebra, femur, and acetabulum.

It is possible the gunshot defect is also associated with the same event if it caused the individual to fall. The gunshot fractured the clavicle midshaft, medial to the conoid ligament. Large bone growths are present with bone bridging with no evidence of periostitis or reactive bone. The gunshot did not

impact the scapula or ribs and the defect angles laterally, coming from the left side of the individual's body. The impact of the projectile to the right shoulder could have caused this individual to fall on their left side, landing on the greater trochanter, and causing the trauma associated with the femur, acetabulum, and sacrum, particularly if they are off the ground in a saddle or standing on stairs or a platform.

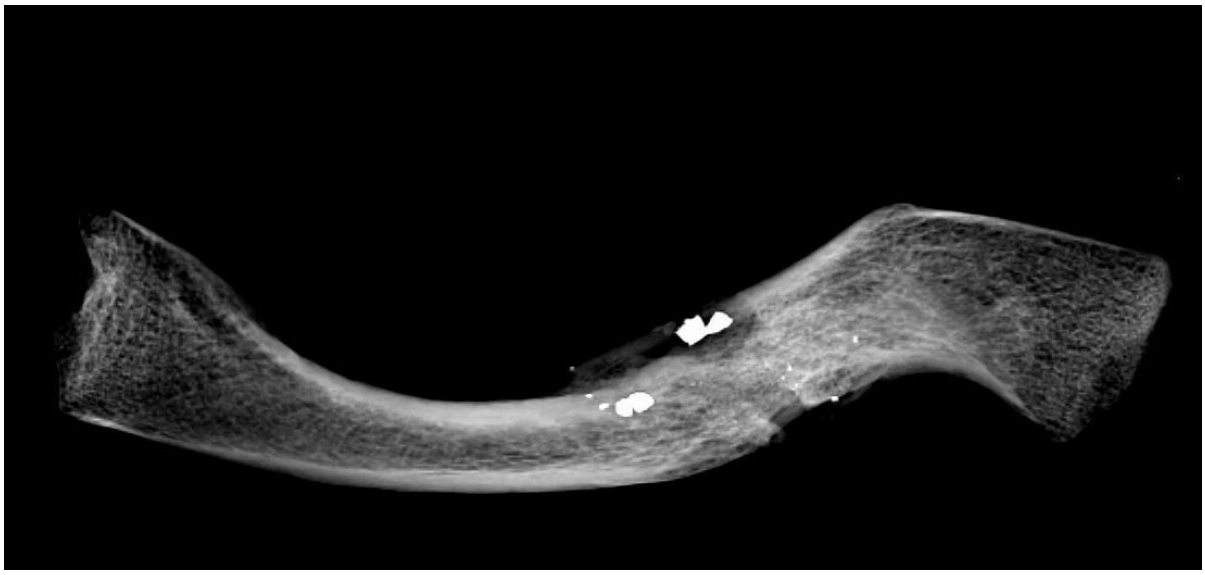


Figure 9.7.13: Burial 18 Right Clavicle Gunshot Trauma with Metal Fragments in the Bone

Figure 9.7.14: Burial 18 Right Clavicle

Figure 9.7.15: Burial 18 Femoral Head with Neck Fracture

Figure 9.7.16: Burial 18 Anterior and Posterior View of the Sacrum and 6th Lumbar

9.7.3.3.5 BURIAL 62

Burial 62 had a gunshot injury to the right ankle and a healed fracture of the first proximal left phalanx of the foot. The gunshot injury was from a shotgun and a pellet was still lodged in the medial neck of the talus. The pellet is present and fits into the defect on the medial head of the talus. Periosteal reactive bone surrounded the pellet creating an abscess which was large enough for the pellet to be

removed. Active infection from the gunshot wound extended into the rest of the ankle is evidenced by reactive sclerosing bone and periosteal reactions on the other tarsals (Figure 9.7.17). The bone changes are likely indicative of septic arthritis caused by bacteria entering the skin and bone from the from the unsterile pellet (Roberts 219). The ankle would have been inflamed and tender from the infected tissue, affecting the ability to walk, with complications including, chronic pain, contractures, and diminished usefulness (Holmes 2003). There is the potential this individual sustained this gunshot wound while incarcerated and died from this injury, since septic arthritis can result in death and is associated with substantial mortality and morbidity (Weston et al. 1999).

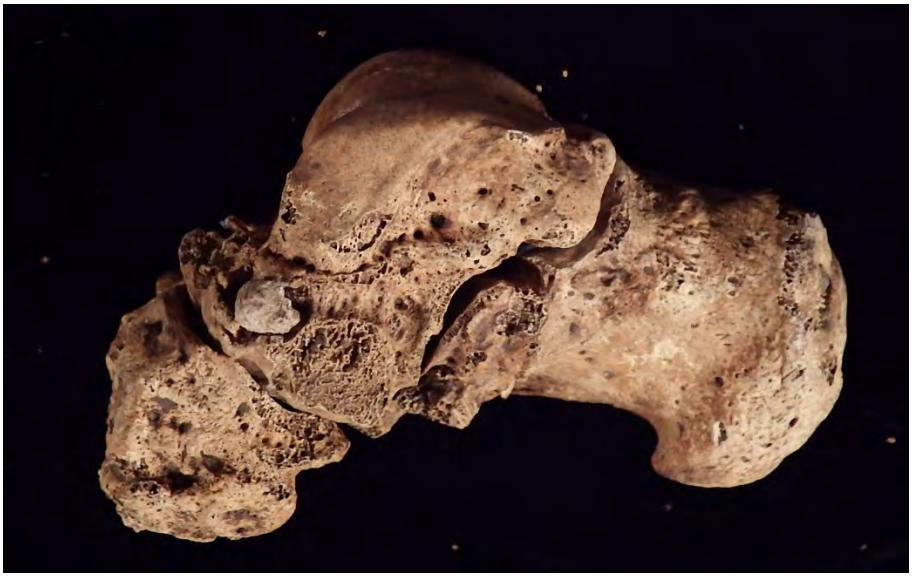


Figure 9.7.17: Burial 62 Antemortem Shotgun Trauma to Right Ankle with Shotgun Pellet in Talus and Evidence of Infection

9.7.3.4 Perimortem Gunshot Trauma

The following individuals died from gunshot trauma while incarcerated at the prison camp. Each of these four individuals has evidence of gunshot trauma with associated shot gun pellets that were still embedded in them when they were buried. Since no healing of these defects is present, the gunshot trauma either caused the death of the individual or was part of an event causing the death of the individual.

9.7.3.4.1 BURIAL 51

Burial 51 had two antemortem fractures and a possible perimortem gunshot wound to the arm. The right 6th rib fracture was almost healed. Callus formation was still present in the form of a swollen area surrounding the break location, but the bone had transitioned to lamellar bone indicating the fracture was in the late stages of healing (Figure 9.7.18). The right 5th metacarpal was fractured on the distal third of the shaft (Figure 9.7.19). The healed fracture did not set properly leaving the metacarpal bending laterally. This would have resulted in the 5th finger on the right hand bending away from the palm of the hand. A perimortem gunshot wound to the medial epicondyle of the right humerus is present with a pellet that fits into the defect.

Gunshot trauma was also found on the medial epicondyle of the right humerus (Figure 9.7.20). The shotgun pellet was recovered during excavation and fits into the defect. Post-mortem damage to the defect prevents confirming if the defect was antemortem or postmortem. However, the defect is likely perimortem due to the lack of remodeling in the immediate area outside the edges of the defect that have postmortem damage. It is unlikely the gunshot defect was the cause of death for this individual, but it is likely the individual was shot with a shotgun within a few days of their death before primary bony callus formation could occur. They could have sustained additional shotgun injuries that either did not penetrate to bone or were obscured by postmortem damage to the skeleton.

Three separate incidences of trauma are evident in this individual that occur at different times. The healed fracture of the metacarpal occurred first, followed by the rib fracture and then gunshot trauma. The timing between the 5th metacarpal fracture and the rib fracture is unknown because the metacarpal is completely healed with remodeling and reduction of the bony callus complete. Approximately three or four months, to up to a year, passed between the rib fracture and the gunshot trauma based on the amount of callus remodeling present.

Figure 9.7.18: Burial 51 Fracture of the Right 6th Rib

Figure 9.7.19: Burial 51 Healed Fracture of the Right 5th Metacarpal

Figure 9.7.20: Burial 51 Possible Perimortem Gunshot Trauma to the Right Medial Epicondyle with Shotgun Pellet

9.7.3.4.2 BURIAL 63

Burial 63 had perimortem gunshot trauma to the right talus (Figure 9.7.21). The pellet lodged in the medial malleolus of the right talus. No other evidence of gunshot trauma was visible on the skeleton. The greater saphenous vein is in front of the tibial malleolus where the pellet penetrated the talus. It is likely the pellet would have severed the greater saphenous vein. Since no evidence of healing at the wound is present, the gunshot trauma is perimortem. It is unclear if severing the greater saphenous vein would result in death. The death of this individual was related to the gunshot trauma; however, it may not have been the cause of death.

Figure 9.7.21: Burial 63 Perimortem Gunshot Trauma To The Right Talus With Shotgun Pellet Imbedded In The Bone.

9.7.3.4.3 BURIAL 66

Perimortem gunshot trauma is evident in the left hand of Burial 66 (Figure 9.7.22). Three gunshot pellets were found near the left hand in the burial on the left 1st metacarpal, the wrist and near the right arm. The first shotgun pellet is associated with the defect on the 1st metacarpal with no postmortem damage to the defect. The second shotgun pellet was found near the location of the triquetral on the lateral side of the wrist. The triquetral was highly fragmented and unable to be recovered due to the gunshot trauma. The hamate and pisiform were similarly damaged from the gunshot trauma. A third shotgun pellet was found near the right arm at the end of the left hand. It is unclear if this shotgun pellet was in the soft tissue of the right arm since the shotgun pellets shifted laterally during decomposition of the remains.

Gunshot trauma in this instance cannot be conclusively linked with the cause of death. The gunshot trauma would not have affected any major veins in the hand since the defects are on the posterior side of the bones. It is unclear if the third shotgun pellet affected any organs in the abdomen. The cause of death cannot be determined from the present of the gunshot trauma; however, it is clear the gunshot trauma occurred near the time of death due to the lack of healing and callus formation of the gunshot defects.

Figure 9.7.22: Burial 66 Gunshot Trauma to the Left 1st Metacarpal with Shotgun Pellet

9.7.3.4.4 BURIAL 38

Burial 38 has evidence of gunshot trauma and a healed shearing fracture. The shearing fracture is on the base of the left first proximal phalanx of the foot. This shearing fracture affected the medial half of the proximal articular facet and resulted in the phalanges of the first toe bending medially (9.7.23). Gunshot trauma is significant throughout the body with nine shotgun pellets recovered.

Perimortem gunshot trauma is evident throughout the midsection of the skeletal remains. Defects from shotgun pellets are present on the posterior right humerus, right scapula, right radius, right anterior ilium, right 2nd proximal phalanx, vertebrae and left posterior sacrum (Figure 9.7.24). Shot gun pellets refit each of the defects. One shotgun pellet would have been lodged in the soft tissue on the right side near the ribs. The rib cage and vertebrae were reconstructed to follow the path of the projectiles into the torso to determine the location from which the shots originated. Reconstruction indicated the individual was shot from at least three directions. Some of the shotgun pellets struck

bone embedding into that bone while others passed through the rib cage. One shot originated from the back, the front, and front right side of the body. Pellets found in the sacrum, scapula, and posterior surface of the right humerus and radius support the angle of this shot. A second shot originated from the front right side of the body evidenced by the pellets lodged on the right side of the body of the 8th thoracic vertebrae and the right transverse process of the 10th thoracic vertebra. An additional defect was present in the anterior side of the right ilium indicating a shot may have originated from the front of the body with the individual facing the shooter.

All trauma associated with this individual is perimortem due to the lack of healing associated with the gunshot defects. The pattern of the shotgun pellets suggests there was some distance between the shooter and the victim. The perimortem gunshot defects and the evidence of trauma on the ribs indicating shotgun pellets transversed the torso from right to left exiting the left ribs support the conclusion this individual died from the shotgun wounds and that this individual was shot at least three times.

Figure 9.7.23: Burial 38 Fracture of the Left First Proximal Phalanx

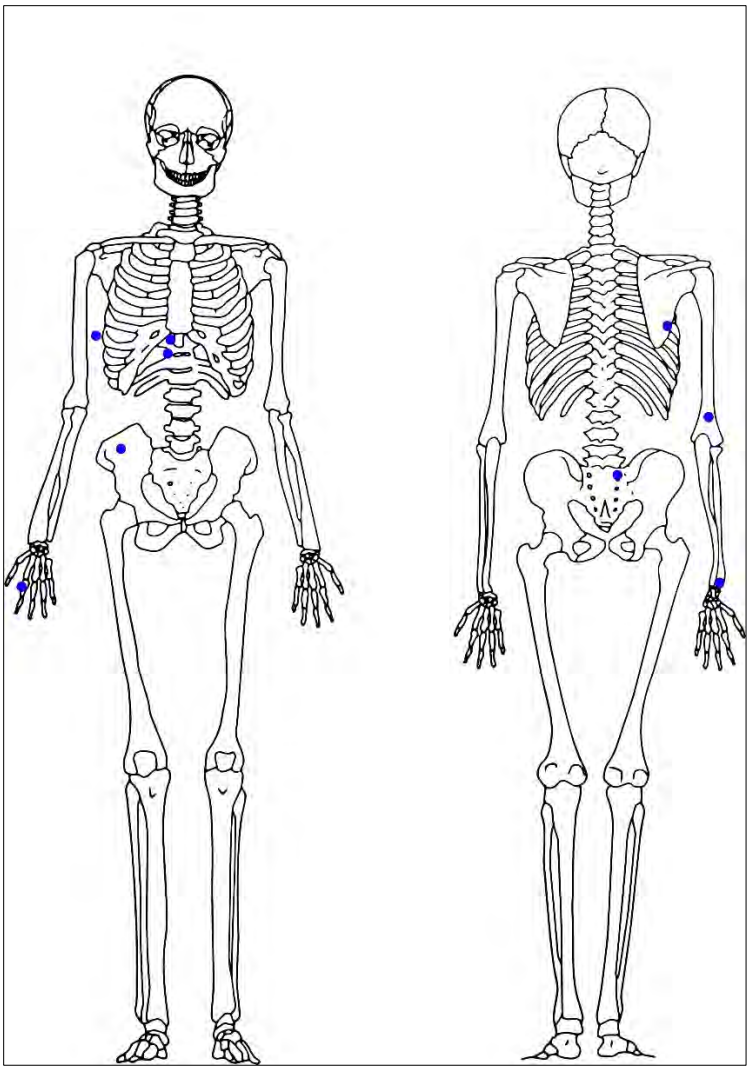


Figure 9.7.24: Burial 38, Location of Buckshot Pellets at Exhumation

9.7.4 Discussion and Conclusion

Comparing trauma frequencies does not provide comparative information because the groups are not subject to the same environment, occupational hazards, and threat of violence. It is interesting, however, to note that weapon trauma was not uncommon. At Freedman's Cemetery, 15.5% of males had evidence of weapon wounds with 17 individuals having gunshot trauma with metal projectiles in the grave (Tiné 2000). In addition, trauma was most common in the leg (13.4%) with hand trauma as the second most frequent trauma in males (9%, Tiné 2000). Trauma of all types is most frequent in the hand at Bullhead Camp Cemetery. This indicates that individuals that were not incarcerated also suffered from trauma associated with occupational/activity related injuries but were also vulnerable to violence. Skeletal trauma and injury indicate the level of risk associated with the economic power, lifestyle, occupation, and socioeconomic status of the individuals. Studies have

found that fractures are more prevalent in deprived areas with lower socioeconomic status (Menon, Walker, and Court-Brown 2008; Stark et al. 2002).

Trauma provides a means of measuring the quality of life for those at who were at Bullhead Camp Cemetery. The perimortem trauma is the only trauma that speaks to the quality of life of those that were at the prison camp as it is the only trauma that can be conclusively tied to the prison camp. The crushing fracture provides evidence of the dangerous labor required to grow and mill. Perimortem gunshot trauma attests to the power and authority of the prison guards. Historic records of convict deaths at the prison camp note that individuals were shot and killed while trying to escape or killed by other means than being shot while trying to escape. The records do not indicate if an individual was shot while trying to escape, was recaptured, and survived being shot. Therefore, the deaths from gunshot trauma are likely individuals that tried to escape. For example, for Burial 39, the healing gunshot trauma and later amputation could possibly indicate that this individual was shot while trying to escape but did not die after being shot and captured. Rather, this individual died after the lower right leg became infected during the process or soon after the leg was amputated.

It cannot be determined if the individuals with healed or healing gunshot trauma were trying to escape and recaptured and were shot in the process without the incident being recorded. It is possible that the gunshot trauma found in this group may be the result of their incarceration. It simply depends upon how long the individuals were at the prison and if they tried to escape. Of those found in the convict records, five individuals escaped but were recaptured, one escaping and being recaptured twice. It is possible they sustained injuries or were shot and not killed. Two individuals escaped but were caught the same day.

Additionally, other trauma may also be associated with punishment or lashes received at the prison camp. Six individuals were listed as being punished, with no indication of what that punishment entailed. There were13 incidences of lashes being meted out, counting between 9-20 lashes each time. In one case, the individual was whipped several times and then killed trying to escape. Of those thirteen, two received lashes twice, three received lashes three times, and two individuals received lashes four times. It may be possible, with the identification of individuals at Bullhead Camp Cemetery, to estimate if the injuries were sustained while at the prison camp or before based upon their length of imprisonment, scars at the time they were incarcerated, and whether they tried to escape.

The historic records note any scars, prior gunshot wounds, or identifying features visible on the individuals when they were incarcerated. Based on the number of scars and that many were from gunshot wounds, knife wounds, broken bones, and fractures resulting in deformity, these individuals led a hard life and accidental, occupational, or violent injuries were not uncommon before they arrived in the prison.

9.8 Lice and Gut Parasites

Soil samples were taken to test for lice and intestinal parasites. Samples were taken during excavation from the skull and sacrum. Soil samples, to test for lice eggs, were taken at the locations favored by lice. Samples were taken from the occipital, near the mastoids, and focusing on the bone

area that would have been in contact with the bottom of the coffin since they may have fallen in that location during decomposition. Intestinal parasites were taken from the 2-3 cm of soil in direct contact with the sacrum. Soil was collected if the remains were in-situ. Samples were sent to the University of Nebraska at Lincoln. Unfortunately, due to the soil being clay that generally stayed wet, no evidence of lice or intestinal parasites could be found.

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10.0 STUDIES UNDERWAY INDEPENDENT OF TAC PERMIT #8197

10.1 INTRODUCTION

The only method to positively identify the individuals exhumed from Bullhead Camp Cemetery is to conduct Ancient DNA (aDNA) analysis, followed by concerted genealogical investigation. To some extent, isotope analysis may also assist in identification. Bioarchaeological analysis of the skeletal remains, including stature, age, sex, pathologies, and cause of death provides information about the individuals and can narrow down possible matches to individuals buried at the cemetery, but cannot confirm identity. By combining the results of comprehensive bioarchaeological, isotopic, genealogical, and aDNA studies, the researchers hope to narrow down possible identities and compare data to local populations to find descendants, thus, confirming the identities of at least some of the individuals from the sample group.

Data from the isotope study may allow the researchers to identify regions where the individuals spent their early childhood through their mid to late teens. Combined with the bioarchaeological and genealogical data, it may be possible to track down an individual's family lineage. It may also narrow the number of tests needed to compare a possible family line with the individuals of the sample group, reducing costs and increasing the possibility of positive identification of individuals.

By identifying individuals, a greater understanding of the lives of the individuals that died and were buried at Bullhead Camp can be obtained. The studies will provide a greater depth of understanding of the trials of living in Texas in the mid to late 1800s. The researchers can gain a better understanding of the individual's lives regarding health, injury, childhood disease and malnutrition, physical occupation during slavery and emancipation, and incarceration at the outside labor camps leading to death. In the journey for freedom, emancipation resulted in a devastating plague of diseases and malnutrition due to extremely limited access to health care and nutritious food (Downs 2015). DNA analysis and identification of individuals will give the unprecedented opportunity to identify detailed health impacts on children of the Emancipation, Reconstruction, and Jim Crow eras. In turn, it may be seen how traumatic life experiences, during slavery and after emancipation, are passed down to living descendants through genetics.

Just as during slavery, families were torn apart as African Americans were sent off to prison labor camps, sometimes never to be heard from or seen again. After emancipation, families spent enormous efforts to find lost relatives (Williams 2016). These studies provide a chance to continue those efforts and reunite the families with their lost ancestors.

10.2 STUDIES UNDER WAY

A group of researchers have volunteered their time, effort, and considerable skill to conduct studies pertaining to the identification of individuals within the population of Bullhead Camp Cemetery. The group consists of public and private sector geneticists, genealogists, isotope specialists, and archeologists. In September of 2019, the THC issued TAC Permit #9310 to Principal Investigator and Bioarchaeologist Dr. Catrina Whitley for the purpose of conducting aDNA analysis and isotopic studies of tooth and bone samples collected from the population of Bullhead Camp Cemetery. Those materials, curated at TARL, were sent on loan to the University of Connecticut under Dr. Deborah Bolnick for the purpose of aDNA extraction and preliminary analysis of the samples. Analysis will

continue with Othram, Inc., of The Woodlands, Texas, to continue analysis, perform sequencing, and conduct searches of available databases to find descendants. Lastly, genealogical investigations performed by a research group led by Dr. Helen Graham will be conducted to determine that exact kinship of living descendants to individuals buried at Bullhead Camp Cemetery. Isotopic studies will be headed by Abigail Fisher and Dr. Whitley. The disciplines that will be utilized are discussed in the chapter sections below.

At the time of this writing, aDNA extractions have not yet begun due to shutdowns relating to the Coronavirus pandemic, and no data has yet been collected. Once restrictions to control the virus are rolled back and Dr. Bolnick's laboratory reopens, aDNA extraction will commence. Over the following decade, the study will result in, at least, a greater understanding of those who died and were buried at Bullhead Camp Cemetery. At best, the study will result in the identification of many of the individuals among the population and, hopefully, their living descendants.

10.3 Extraction and Analysis of aDNA

The extraction and analysis of DNA from the remains of individuals interred on the Bullhead Camp Cemetery offers an unprecedented opportunity to learn more about the identities, familial connections, and life experiences of the convict laborers who were buried at this site. In particular, DNA analysis will make it possible to shed light on (1) the genetic makeup and biological ancestry of these individuals, (2) patterns of genetic variation and relatedness among the convict laborers buried there, (3) familial relationships with members of the local community today, and (4) the biological impacts of forced prison labor and the ways that traumatic life experiences may have become embodied by the laborers and passed on to their living descendants. Genetic analysis will be carried out in conjunction with osteological, isotopic, archaeological, genealogical, archival, and ethnographic research. This approach will allow the researchers to contextualize the genetic findings, to better reconstruct the identities and experiences of these individuals, and to identify their closest living relatives.

In order to undertake DNA analysis, samples will be taken from tooth and/or bone that has been collected from each individual. Posterior teeth (molars/premolars) will be preferentially targeted because previous research has shown that they are particularly good sources of ancient DNA (Adler et al. 2011; Pinhasi et al. 2015; Hansen et al. 2017). The samples are currently curated as part of the collections at the TARL at the University of Texas at Austin. The samples have been sent on loan to the Ancient DNA Laboratory at the University of Connecticut for analysis by Deborah Bolnick and her team. This newly constructed, state-of-the-art, restricted access cleanroom facility is designed specifically for studies of ancient DNA and is dedicated to ancient DNA research, using only laboratory procedures that have been optimized for the study of degraded ancient DNA. Extensive contamination controls are also employed to minimize contamination and detect/exclude it as present (Pääbo et al 2004; Shapiro and Hofreiter 2012).

To eliminate any surface DNA contamination that may have been introduced from external sources during excavation and handling, each sample will be submerged in Chlorox bleach for 10 minutes, rinsed twice with DNA-free water, and irradiated with 254-nanometer ultraviolet light for 5 to 10 minutes per side. DNA will then be extracted using procedures that have been optimized for the

maximal recovery of ancient DNA (Bolnick et al. 2012; Dabney et al. 2013; Rohland et al. 2018). Approximately 100 to 200 milligrams of tooth or bone powder will be collected using a dental drill for each DNA extraction.

To make an initial assessment of DNA preservation in each sample and to identify the mitochondrial DNA (mtDNA) lineages present in the individuals, the researchers will sequence a portion of the first hypervariable region of the mtDNA following the protocol given in Bolnick et al. (2012). Each cell contains many copies of the mtDNA, making it more likely to be preserved in aDNA samples (Willerslev and Cooper 2005). Mitochondrial DNA can also be used to trace matrilineal relatedness and maternal ancestry because it is maternally-inherited. DNA sequences will be compared to the Cambridge Reference Sequence (Andrews et al. 1999) and mtDNA lineages will be identified by diagnostic genetic differences from that reference sequence.

Genomic DNA libraries will then be prepared for each sample using a protocol developed specifically for samples containing degraded ancient DNA (Rohland et al. 2015). DNA libraries will be prepared in the Ancient DNA Laboratory at the University of Connecticut, and then sent to the Othram laboratory for genome sequencing by David Mittelman and his team. DNA libraries will be first sampled using the iSeq platform to check the quality of the DNA libraries, assess contamination from non-human sources of DNA, and ensure successful sequencing on the high-throughput Novaseq instrument that will be used for Illumina whole genome sequencing.

The sequence data from these DNA libraries will be used to assess nuclear DNA preservation, identify and exclude any external contamination, determine the genetic sex of each individual, characterize the overall genetic ancestry of each person, evaluate patrilineal and biparental relatedness among the cemetery group, and assess familial relationships with members of the local community living today. This dataset will also allow the researchers to determine the sequence of the complete mitochondrial genome and confirm the researcher's initial assessment of the mtDNA lineage of each individual. Othram has curated historical and genetic data for all known 5,500 human mtDNA lineages, which will allow the researchers to precisely identify the lineage of each individual and establish the ancestral and familial connections of that person. Othram has also curated a database of human Y-chromosome genetic lineages that will be used to help trace recent and historical familial relationships along the father's line. Othram will further utilize its pairwise kinship analysis algorithm to confirm intrafamilial relationships. Dr. Mittelman has previously used this algorithm in missing persons' cases to confirm or establish relationships between remains and living relatives.

For samples with well-preserved nuclear DNA, the researchers will also analyze epigenetic markers in order to assess the biological impacts of forced prison labor and the ways that traumatic life experiences may have become embodied by the laborers and passed on to their living descendants. Epigenetics refers to the study of chemical markers that get attached to a person's DNA over the course of their lifetime. The presence or absence of these markers can be influenced by environmental factors, such as trauma or diet, and new methods for studying epigenetic marks in ancient DNA samples have been developed over the past decade. By combining epigenetic studies with osteological, isotopic, archaeological, genealogical, archival, and ethnographic evidence about

the cause of a person's death, their diet and lifestyle, and the environment in which they lived, the researchers will better understand the convict lease era of Texas history and how it impacted both individuals and communities.

This epigenetic analysis and its integration with the other forms of data to be collected will be undertaken as part of Samantha (Sam) Archer's dissertation research. As a native Texan and Houstonian, Sam is deeply interested in the history of convict leasing in Texas and hopes her research will help the researchers better understand the relationship between the convict lease system, the reproduction of slave labor under various systems in the post-Reconstruction era, and the rise of the modern prison-industrial complex. She is also interested in assessing the biological impacts of forced prison labor and the ways that traumatic life experiences may have become embodied by the laborers and passed on to their living descendants. To help contextualize her findings, Sam would be interested in speaking with community members and recording oral histories, as well as employing ethnographic methods to help understand the impact of her findings on local communities today.

10.4 Genealogical Research

Genealogy is a scholarly endeavor of tracing lineages and studying families and family histories. According to the National Genealogical Society (2007), documentary evidence of each generational bloodline connection can be proven with evidence and records. To determine relations, genealogists use a myriad of tools such as archival and historical records, genetic DNA analysis, and oral interviews. To identify the individuals exhumed from the Bullhead Camp Cemetery and potential living descendants, the researchers conducted historical research, interviewed an historian, examined archives, and conducted genealogical research.

The used process for identifying the individuals began by conducting historical research pertaining to the cemetery discovered on the JRCTC. The researchers determined that the property was used as a convict labor camp and that the camp underwent several name changes during its existence. The researchers then conducted historical research of convict leasing in Texas and pinpointed a date range of when convict leasing and labor camps were operated in the vicinity of the campus.

After findings were verified, the researchers identified and conducted an interview with an historian whose maternal grandfather supervised the cotton gin at this labor camp. As a child, the historian spent her summers at the camp and was able to shed light on the daily operations of the camp, the prisoners and their roles, the punishments (state sanctioned and illegal), and the normality of the convict lease system. She provided timelines and her knowledge of the life experiences of the laborers at this camp. The researchers then began scouring archives for the identities of persons sentenced to this particular labor camp, under its various names, between the years of 1871 and 1912.

The researchers visited the Texas Department of Criminal Justice in Huntsville, Texas, and spent hours researching, locating, and copying intake records of persons convicted of crimes and sentenced to this labor camp. These records provided names of persons convicted, their offenses, the length of sentences, the location of the labor camp, physical traits, marital status, number of

children if any, addresses at time of conviction, and parental data. Many records were transferred to the Texas State Library and Archives Commission and were unavailable to examine during these visits.

Based on the results of research conducted at the Texas Department of Criminal Justice, a visit was scheduled to the Texas State Library and Archives Commission in Austin, Texas. A team of researchers spent a week examining the archives for persons sentenced to the labor camp. The researchers mined and extracted data from archives such as, but not limited to, commissioners' reports, physicians' reports, monthly reports on camps, superintendents' reports, committee reports, and mortality reports. While reviewing a committee report, the researchers identified a physician assigned to the labor camp. A search of Newspapers.com revealed several articles about this physician, including his death and burial location. A brief search on Findagrave.com resulted in the identities of some family members. The researchers then searched for this physician in FamilySearch.org and located a living descendant. The researchers contacted the descendant to obtain information about his relative and are awaiting a reply.

Following the research at the Texas State Library and Archives Commission, the researchers began a search for digital archives of these records. The researchers directed their search to conduct registers located in Ancestry, the largest for-profit genealogy company in the world. The researchers were successful in locating several conduct registers related to the individuals exhumed. After documenting their findings, the researchers returned to the Texas Department of Criminal Justice to find related intake records.

After retrieving intake records and identifying persons who were sentenced to and died at this camp, the researchers began tracing those buried at Bullhead Camp Cemetery and possible descendants forward in time and recorded findings in standard genealogical formats. The researchers recruited a team of genealogists to help in this endeavor. The lead genealogist has more than 25 years of genealogical research experience; she has traced her own maternal African-American lineage to the 1700s and her paternal Native-American lineage to the 1600s. Aside from the independent genealogists, the team consisted of genealogists from The Afro-American Historical and Genealogical Society, The Church of Jesus Christ of Latter-Day Saints, and FamilySearch, which is a genealogical society founded in 1894 with 4,600 local family history libraries around the world.

To date, 74 names of individuals who died in the Bullhead Camp have been identified, and family lines of three of the individuals have been identified. However, without genetic and/or isotopic analysis, it is impossible to ascertain the identity of an individual or possible living descendants. Researchers plan to conduct more archival research and oral interviews with local historians and persons familiar with the labor camp in an effort to identify the individuals exhumed from the Bullhead Camp Cemetery, to locate living descendants, and to reconstruct the narratives of the lives ended at Bullhead Camp.

10.5 Isotopic Research

The proposed stable isotope research will provide additional dietary and migration data to enhance the ongoing bioarchaeological study of the historic population exhumed from Bullhead Camp

Cemetery and help identify possible descendants. Based on the sex and ancestry profile of the individuals, those buried at this cemetery were probably inmates from the nearby convict-leasing camp. Thus, the discovery and excavation of these individuals presents a unique and important opportunity to study a population of convict-lease inmates and to shine a light on the history of convict-leasing.

The researchers propose isotopic analyses of samples collected from 87 of the individuals exhumed from Bullhead Camp Cemetery. Isotopic analyses of teeth will allow the exploration of several important questions about this population, including: 1) How did diet change from slavery to convict-leasing program? 2) Were the inmates from local populations or were they brought in from other areas of the state? 3) Were the inmates born in Texas or did they arrive after adolescence?

This study will not only inform the growing narrative of the lives of freed slaves in the southern United States, but also on the lives of the individuals who were interred at the site. This will aid in the telling of their stories and in their possible identification.

The study will use stable isotope analyses to test hypotheses related to changes in diet (carbon and nitrogen) and migration (oxygen and strontium) in association with post-emancipation and convict leasing lifeways. The study will utilize two teeth from each of the 87 individuals exhumed from the Bullhead Camp Cemetery, one developed in early life such as an incisor or canine, and one developed later in life, such as a second, or preferably third, molar. From the “early” tooth, strontium and oxygen isotope analyses of the enamel will inform on where the individual was brought up, and carbon (organic and inorganic) and nitrogen isotopes will inform on their diet during childhood. From the “later” tooth, oxygen isotope analysis will inform on geographic movement from childhood to adolescence, and carbon and nitrogen analyses will inform on changes in diet. As tooth roots and tooth enamel develop at different stages, this approach allows for several “snapshots” into the dietary and migration history of a single individual. Once the individual life histories are established, the population will be studied looking for changes in dietary trends through time. Temporal changes will be established using coffin hardware (nails) and general population demographic trends observed in the bioarcheological study.

10.5.1 Diet

The use of stable isotope analysis in dietary and life-history reconstruction is well established (e.g., DeNiro and Epstein 1978, 1981; Montgomery et al. 2007b; Schwarcz et al. 1991; Vogel and van der Merwe 1977; White et al. 1998), based on principles of enrichment and depletion derived from the processes of plant photosynthesis and respiration (carbon; DeNiro and Epstein 1978) and trophic level enrichment (nitrogen; DeNiro and Epstein 1981). As such, δ13C is a useful tool in evaluation of certain plant inputs (e.g., corn, millet, sorghum) and δ15N may be used to reconstruct diet complexity (e.g., fish consumption, meat). Malnutrition may also be apparent in both δ13C and δ15N. People acquire their organic collagen δ13C signature (δ13Ccoll.) from ingested protein (Ambrose and Norr 1993; DeNiro and Epstein 1978), so that δ13Ccoll. primarily reflects the fish and meat (see Wilson 1924). Enriched δ13Ccoll. will reflect instances of high meat consumption. Corn is only 10.3% protein by dry weight (Ambrose and Norr 1993:30), so that variation in its consumption may not be apparent in δ13Ccoll. In contrast, δ13C in enamel and bone apatite reflects cumulative diet

(δ13Capa.), and not preferentially protein (Ambrose and Norr 1993), so that ingested plant materials reflect in relative abundance to protein. Apatite in tooth enamel is set at childhood and rarely is subject to diagenetic alteration due to it being essentially non-porous and largely composed of stable crystals of hydroxylapatite (less than 2% organic). It is thus a useful medium for studies of total diet (Driessens and Verbeeck 1990:106), especially in short-lived species. δ13Capa thus may reflect the degree to which corn contributed to the diet, and changes in corn dependence will be apparent by comparative analysis (e.g., Beaumont and Montgomery 2016; Cook and Schurr 2009; Tykot et al. 2009). δ15N undergoes enrichment through trophic level increase, such that due to the increased complexity of marine and freshwater ecosystems. Those who consume fish have more enriched δ15N than those who eat terrestrial mammals, etc. (DeNiro and Epstein 1981). Enrichment in δ15N is thus associated with dependence on fish or general access to meat. Further, δ15N and δ13C may be altered by malnutrition and starvation (Beaumont and Montgomery 2016; Mekota et al. 2006; Neuberger et al. 2013). δ15N enrichment is caused by a slowdown of catabolism of body proteins during gluconeogenesis (Mekota et al. 2006. A depletion of δ13C is caused by a lack of energy in the consumed diet (Neuberger et al. 2013). Diet in the south was likely consistent through time: meat, cornbread, vegetables. It is the amount and ratios of these food which possibly changed through time for those who were slaves, then freed, and then incarcerated.

Generally, slaves were seen as an investment, which needed to be fed to work (Covey and Eisnach 2009:12). However, malnutrition was enough of an issue for the issuance of laws requiring adequate food and care. After AD 1845, laws in Texas required slaves be provided "… a sufficient quality of wholesome food." Generally, slave diets largely consisted of meat from domesticated livestock, but wild species such as raccoon, snapping turtle, and opossum also contributed (Samford 1996). Fish and aquatic resources likely also contributed, but wild resources were likely a small component of the slave diet. The slave diet in Texas generally included bread, molasses, beef, chicken, pork, sweet potatoes, and hominy (Barr 1996:18). There were also occasional contributions of turkey, opossum, and deer. From a dietary perspective, slave and owner likely shared a similar diet (Barr 1996:20). On a Texas plantation, typical rations included bacon or dried beef, sometimes supplemented with milk, butter, and molasses, along with sweet potatoes or cornmeal, and possibly flour and vegetables (Covey and Eisnach 2009:23). Plantation owners also likely encouraged slaves to grow their own vegetables for personal use and/or sale (Covey and Eisnach 2009:73). This would add legumes such as beans and root and green vegetables to the slave diet. A traditional slave diet provided about 4,000 calories per day for an adult field hand, albeit this could vary greatly (Ransom and Sutch 2001:20).

The privilege of being free was restricted by poverty (Ransom and Sutch 2001:12). Post-emancipation diet was probably more varied than a slave diet, but likely still consisted primarily of pork and corn (Ransom and Sutch 2001:11). In terms of nutrition, however, these diets were imbalanced, with insufficient protein from meat and an excess in carbohydrates from corn to support a laborer's workload. This would present isotopically as a comparative depletion in δ15N and enrichment in δ13C.

Convict meals were generally beans, cornbread, molasses, and sometimes vegetables (Mancini 1996:64). The rules for convict leasing required “good food” consisting of cornbread, beef or bacon, soup, and vegetables (Mancini 1996:172). From its description, the convict diet may mirror the slave diet. However, convict laborers were not seen as an investment; if one died, they were replaced at the expense of the state, not the lessee (Mancini 1996:3,31). Between 1878 and 1880, approximately 256 prisoners of the 2,157 (approximately 12%) leased or subleased by Cunningham and Ellis died (Mancini 1996:176). By AD 1880, Cunningham and Ellis had 1440 convicts working their sugar plantations and had subleased an additional 1,113 convicts (Mancini 1996: 177-178). Housing facilities were squalid, attracting vermin and pestilence (Hill and Pye 2012). As the state abdicated welfare responsibility when leasing convicts, a typical lease camp population was underfed, poorly clothed, and not given proper medical care or rest (Walker 1983). The conditions in Sugarland were such, it led to it being called “the hellhole of the Brazos” (Mancini 1996:175).

The researchers hypothesize that malnutrition and starvation increase through time (slavery versus post-emancipation), as well as through life (pre- versus post- internment):

a. From the presumably earlier section of the site, there are highly robust individuals with indications of heavy labor throughout their lives. The researchers hypothesize that these are former slaves and their diets will be higher in protein (δ15N).

b. From the later section of the site, there are gracile individuals with evidence of heavy labor only later in life. The researchers hypothesize that these are individuals who grew-up post emancipation. The researchers hypothesize that their diets will be richer in carbohydrates (δ13C) and relatively depleted in protein (δ15N).

c. While bone samples would be needed to assess the most recent dietary intake for most individuals, there were several younger individuals at the cemetery with tooth roots still in formation. These individuals will represent diet under convict labor.

10.5.2 Migration

Another unknown aspect of the population exhumed from the Bullhead Camp Cemetery is where these individuals were born and raised. While DNA analyses can reveal biological origins (e.g., West Africa), they cannot necessarily indicate where an individual grew up. For this population, there is an underlying assumption that many were freed slaves, but were they originally slaves in Texas? Further, as the number of individuals incarcerated increased, how far afield did they come? To address these questions, the researchers propose using oxygen and strontium isotope analyses. Geographic isotopic variation in groundwater (oxygen) and minerals (strontium) may be used to track migration of populations through generations or people through their lifetime (e.g., Dupras and Schwarcz 2001; Evans et al. 2006; Schwarcz et al. 1991), especially in conjunction with DNA analyses (e.g., Bentley et al. 2003). Oxygen isotopes (δ18O) in body tissues and bone are derived from body water which is acquired through drinking (meteoric water) and food (White et al. 1998). The isotopic composition of water is subject to enrichment and depletion as part of the water cycle and is thus regionally distinctive. Generally, δ18O depletes with increasing distance from large bodies of water, increasing elevation, increasing relative humidity, and decreasing temperature

(Craig 1961; Yurtsever and Gat 1981). As such, δ18O of an individual reflects the δ18O composition of their local water source and can thus be used in the determination of “local” verses “foreign” in a comparative study of a population (Dupras and Schwarcz 2001; White et al. 1998), and possibly place of origin (Schwarcz et al. 1991). Strontium isotope composition (δ87Sr) varies in rocks based on lithology and age and is incorporated into human bone through soil, water, and plants (Bentley 2006; Montgomery et al. 2007a). As such, δ87Sr may be used to characterize migration and mobility for individuals and populations using bone or tooth enamel (Bentley 2006; Montgomery et al. 2007a, b).

The researchers hypothesize that origin distance from Sugarland will increase over time because:

a. Initially, inmates sent to sugar plantations in Sugarland were local, with previous sugar plantation experience.

b. As demand increased and time since slavery passed, selectiveness decreased, with individuals from other parts of Texas and different expertise (e.g., mining, railroad) brought in to work the sugar fields.

An example of selectiveness is that, in AD 1878, Cunningham and Ellis leased 1,738 inmates, of which 916 were subleased to plantations, 182 for railroad work, 299 for wood chopping, 18 for a sawmill, and 323 to various jobs within the prison such as blacksmithing and working in cotton production (Walker 1983:104).

10.6 Project Timeline, Permit Duration, and Reporting Efforts

Texas Antiquities Committee Permit Number 9105 is of a ten-year duration. The initial DNA work at University of Connecticut will require a minimum of one year to complete. Isotopic research will require at least that duration to complete. After these analyses are complete, the data will be compared to existing available libraries in search of matches to living individuals. Samples will be collected from living individuals that believe they may have some family connection to the population of the Bullhead Camp Cemetery. A potentially daunting genealogical research effort will then be required to prove relatedness and make a definitive identification of remains.

Under the terms of the scope of work, an interim report of findings will be submitted to THC at the fifth (5th) anniversary of the issuance of the permit. This interim report will include the names of any identified persons from the population of the Bullhead Camp Cemetery as well as family histories compiled to that date. In addition to identities of individuals and descendant data, the final report will provide a comprehensive analysis of data resulting from DNA analysis, genealogical research, and isotopic research. This report will be submitted to THC for review and publication.

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APPENDIX A

INTERIM DELIVERABLES

23 April 2018

Pat Mercado-Allinger and William Martin
Texas Historical Commission
1511 Colorado Street
Austin, Texas 78711

Re: Interim Report 1: Cemetery Boundary Exploratory Excavations at Site 41FB355, James Reese Career and Technology Center, Sugar Land, Fort Bend County, Texas (TAC# 8197)

Dear Ms. Mercado-Allinger and Mr. Martin:

This interim report is presented to inform you of the progress of Goshawk Environmental Consultants, Inc. under Antiquities Permit number 8197 and to seek concurrence for our conclusions that the southern and western boundaries of the project area have been identified and that no further work will be required in those directions by the Texas Historical Commission.

Background

In an effort to identify any and all graves at Site 41FB355, we have been stripping the earth around all burials. This work was initiated on the 28th of March. Our scope of work originally indicated that we would scrape in a 10-meter radius from any in-place interment. This was found to be an inadequate radius because one interment was found to be spaced right at 10 meters from another, thus the search radius was increased to 15 meters. This radius has proven to be appropriate for the spacing of burials to identify all outliers and to establish the western boundary of the cemetery. However, the southernmost interments were found to parallel an east/west tributary of Bullhead Bayou. This tributary was identified on historic topographic maps and aerial photographs but had clearly been filled in prior to the FBISD purchase of the land in 2011. Artificial straightening of the stream was accomplished in the project area sometime prior to creation of the 1953 aerial and 1957 topographic map. The new channel, likely post-dates the use of the cemetery and may have caused disturbance across the south edge of the cemetery block.

Excavation along the apparent south edge of the tributary exposed a clear, round-bottom channel, the bottom of which was filled with a clean reddish-brown alluvium and bounded by a brown organic-laden modification of the black argillic clays (Houston black gumbo). The channel edge was so perfectly straight and the bottom so perfectly rounded that it seems clear the channel had been artificially created. This channel was filled with gray, brown, and gray-brown clays to the same level as the surrounding terrain. This in-fill material is easy to

spot as it typically contains 2 to 5 percent architectural refuse (brick, concrete, mortar, window glass, metal scrap, steel pipe, and round nails), and faunal bone with an occasional fragment of human bone from interments impacted by land use prior to 2011. The tributary was very easy to identify during excavation and appeared to clearly demark the south edge of the cemetery as a natural boundary.

After identification of the physical stream bed, scraping in a 15-meter radius continued to the west, and a solid western boundary was identified. Besides a clear and obvious 15-meter buffer between the last interment and the western excavation block edge, a second piece of evidence pointing to a west boundary came in the form of a single buried fence post identified in the excavation block. The post was located approximately 12 meters west of the nearest interment and is assumed to indicate a remnant of the cemetery boundary fence. With a clear western boundary, excavation continued to the north and back across the site to the east.

On 9 April 2018, Bill Martin of the THC visited Site 41FB355. He recommended that excavation be conducted across the presumed southern stream course and that subsequent inspection of the south stream terrace for the presence of graves would be necessary. We scheduled to perform this task after the north and east boundaries were established. Since the tributary and a terrace south would clearly occupy the entirety of Block E of the James Reese building foundation, the discovery of graves there would block the critical path of construction. Depending on the location of future interments discovered south of the stream course, construction activities might be forced to cease. Because of these issues, we were contacted on the evening of 18 April 2018 by FBISD representatives and directed to immediately initiate the investigation of the proposed south boundary across the tributary.

Excavation began on 19 April 2018 in three locations along the south edge of the cemetery block. Four-foot wide trenches were excavated from the cemetery block and southward across the tributary near the areas where highest grave density had occurred. In-fill materials were excavated until the clean reddish-brown sandy loam alluvial channel soils were reached. Working southward, the discreet round-bottom channel was found to be paralleled by a wide natural slough indicated by interbedded sandy loam and clay overlaying the typical black argillic clay subsoil. These natural deposits were overlain by an average of 40 cm of the typical channel fill material and 50 to 70 cm of “clean fill” from pad construction preparations. The 4-foot wide trenches were continued southward until a rise in the black clay subsoils was observed. Trench A was flanked to the west by Trench B and to the east by Trench C. All of these excavations were conducted within a distribution of previously installed foundation piers measuring 24 to 60 inches across and installed to depths of 25 to 50 feet

Trench A was expanded in the middle (in slough deposit) and south end (on old terrace) as block excavations to explore for possible human interments. Blocks were excavated well into the black clay subsoil which was found at a much lower elevation than the black clay underlaying the cemetery (see Figure Site Cross Section Basal Clay Elevation). Photographs

and two profile drawings (Profiles 1 and 3) were made. These figures clearly show the nature of stream fill in both the man-made channel and the clay-bottomed slough. Trench A covered an area of 84.14 square meters and the various depths resulted in a volume of 142 cubic meters of removed soil. Human remains were not encountered in Trench A or the excavation blocks along it.

Trench B, to the west of Trench A, began near the first identified interment (Burial 1) and extended southward, crossing the channel and the slough. Photographs of the trench and one profile (Profile 2) were accomplished. The photos and profile clearly show the mottled nature of the fill along with modern construction debris (metal, glass and brick) mixed into the backdirt. The fill was resting on undisturbed clays of the old south terrace. Trench B covered an area of 116.51 square meters and the various depths resulted in a volume of 161 cubic meters of removed soil. Human remains were not encountered in Trench B or the excavation block at its south end on the old low terrace.

Trench C was excavated from north to south beginning at the deep cut in the first channel due south of linear, densely packed, and well-organized set of burials. The trench finished crossing the first channel, across slough deposits, and continued well into construction Block E, terminating near active construction. The trench was typical of the other two but not expanded to a block excavation as it was obviously just a continuation of the slough. No profile was made but several photographs characterize excavation results and the lack of intact native soils above the black clay subsoil. Trench C covered an area of 31.29 square meters and its excavation resulted in removal of 36 cubic meters of soils.

In conclusion, the carefully opened blocks avoided existing building foundation piers and explored the old terrace exposing black clay subsoils. These clays were found at a much lower elevation (as much as a meter deeper) as compared to the cemetery where 75-80% of the interments are found extending below brownish-red soils into the black clays. Excavation of the south terrace was completed on 20 April 2018. No sign of the usually easily identifiable grave shafts, nor were any sign of human remains found in the sidewalls, floor, or spoils south of the man-made channel and slough. Continuation of the cemetery block and/or additional isolated burials are considered extremely unlikely further south from the trenching operation.

Summary

The western boundary has been established by the absence of burials within a 15-meter radius of burial numbers 3, 49, and 76 and no further work is warranted in that direction.

It is the opinion of the principal investigator (Ron Ralph) and the field director (Reign Clark) that the tributary/slough area and low terrace south of the identified cemetery block was never used as a place of interment because of intermittent flooded conditions. Also, disturbance of soils by bioturbation and other factors, along with re-channelization of the slough, likely caused disturbances along the south edge of the cemetery making unclear the

exact southern boundary. However, as expected, the man-made tributary and natural slough form an obvious natural boundary and the absolute southern boundary to FB355. In fact, it is the clearest boundary we have as of 21 April 2018.

Conclusion

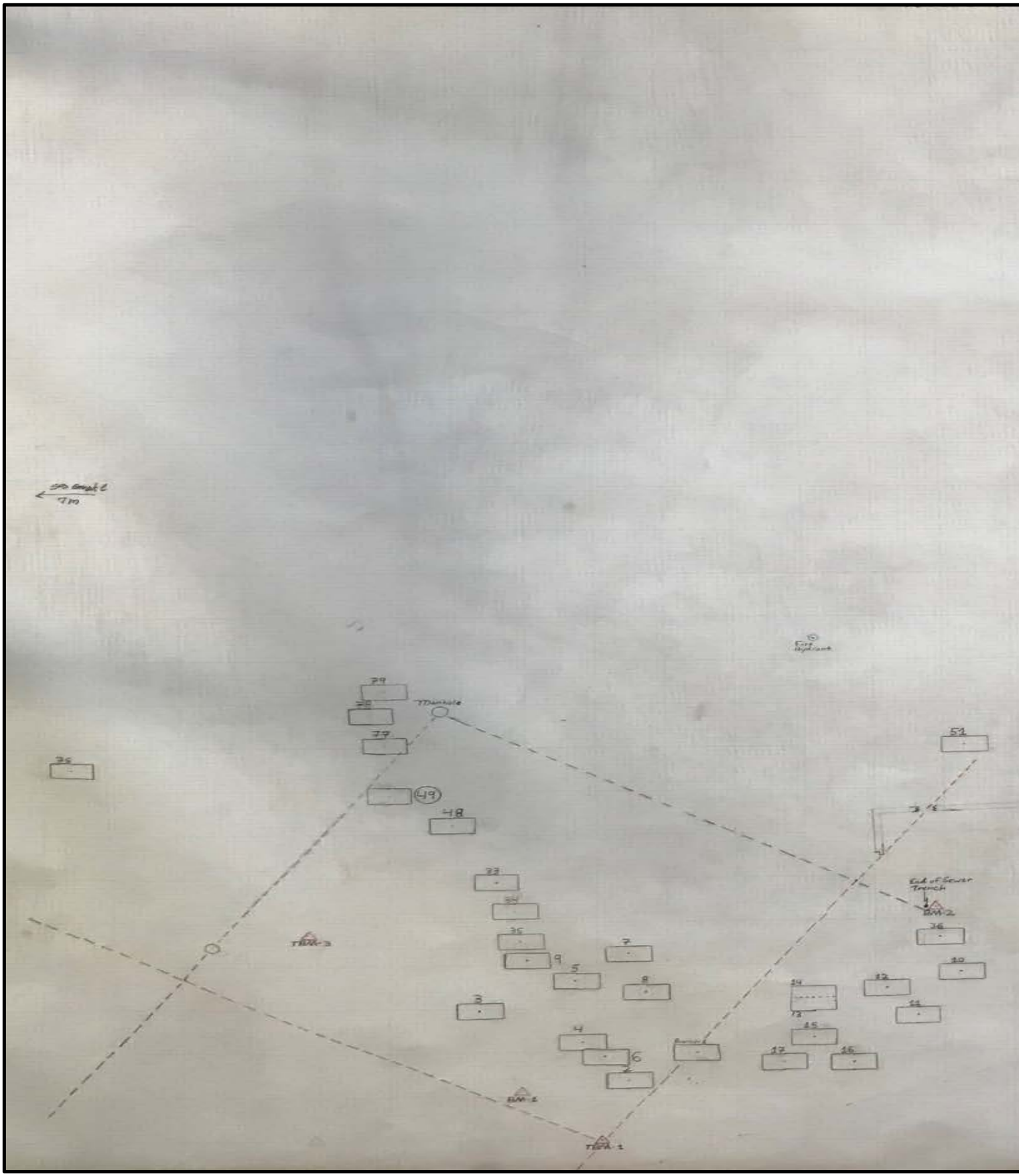
We are continuing to excavate to the east and north and would like the concurrence of the THC that we have defined the southern and western edges of the cemetery and that no further excavation is needed in those two directions. Please call me on my cell (512-419-8424) or contact me by email (rclark@goshwkenv.com) for any discussion, clarification, or further requests for information. We look forward to seeing you on site on 26 April.

Sincerely,

Reign Clark
Cultural Resources Director

41FB355, FIGURES

- Site Plan
- Site Cross-section Basal Clay Elevation
- Cross Slough Profile 1
- Cross Slough Profile 2
- Cross Slough Profile 3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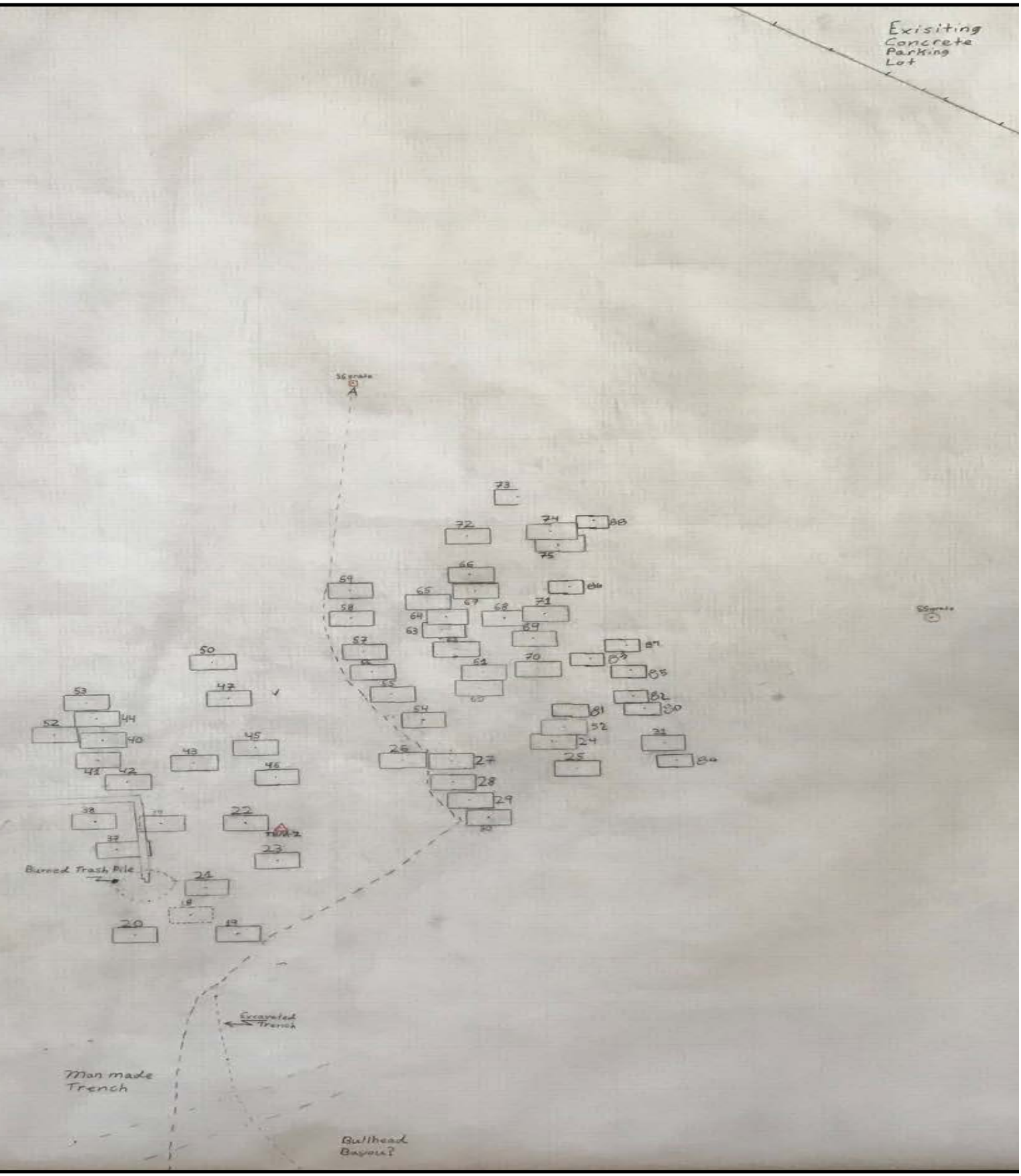
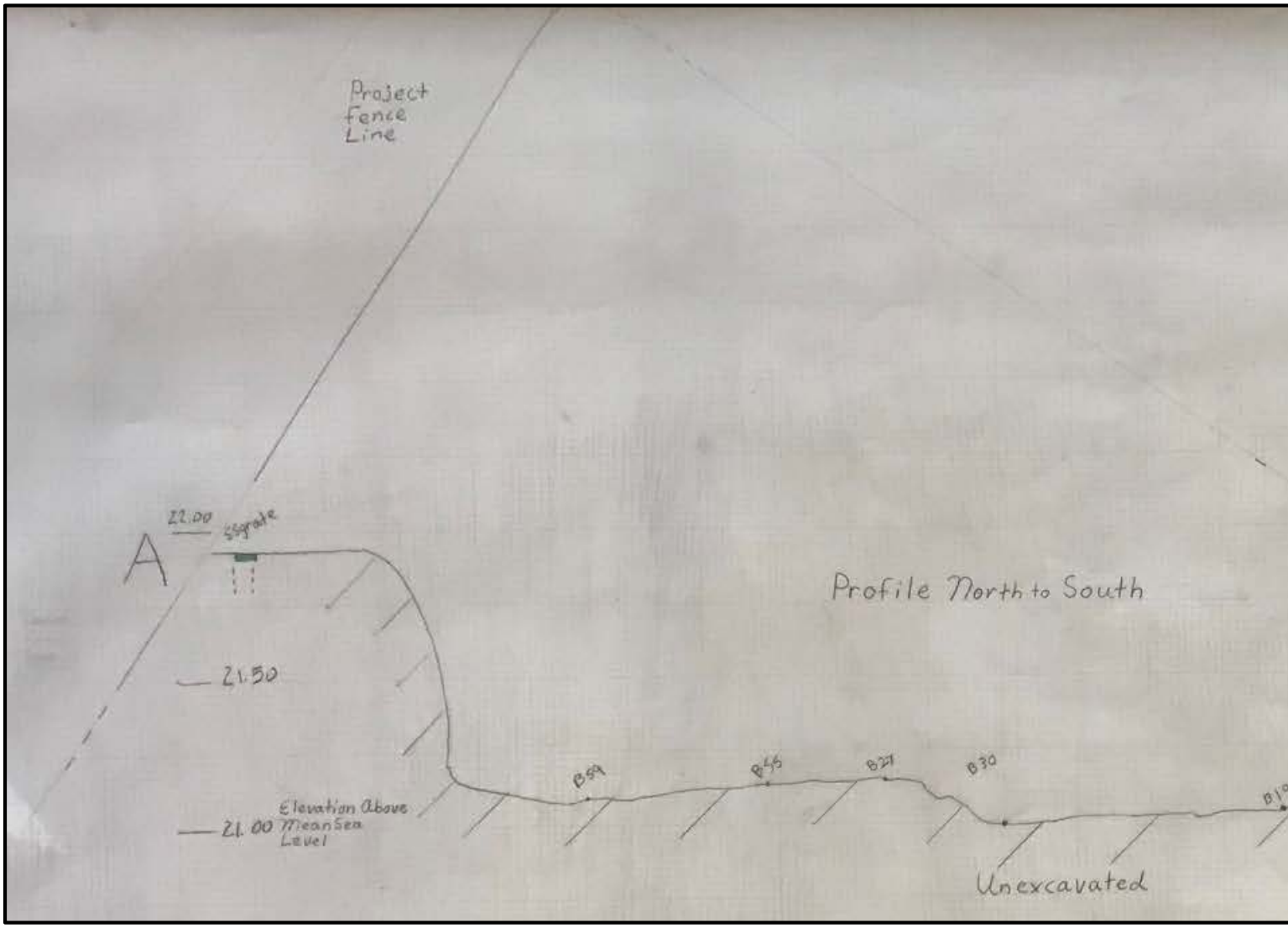
Ent of Sewer Trench
BM-2
BM-3
BM-1


Exisiting Concrete Parking Lot
Buried Trash Pile
Excavated Trench
Man made Trench
Bullhead Bayou?


Project
Fence
Line
22.00
Sagrate
A
Profile North to South
21.50
B59
B28
B27
B30
Elevation Above
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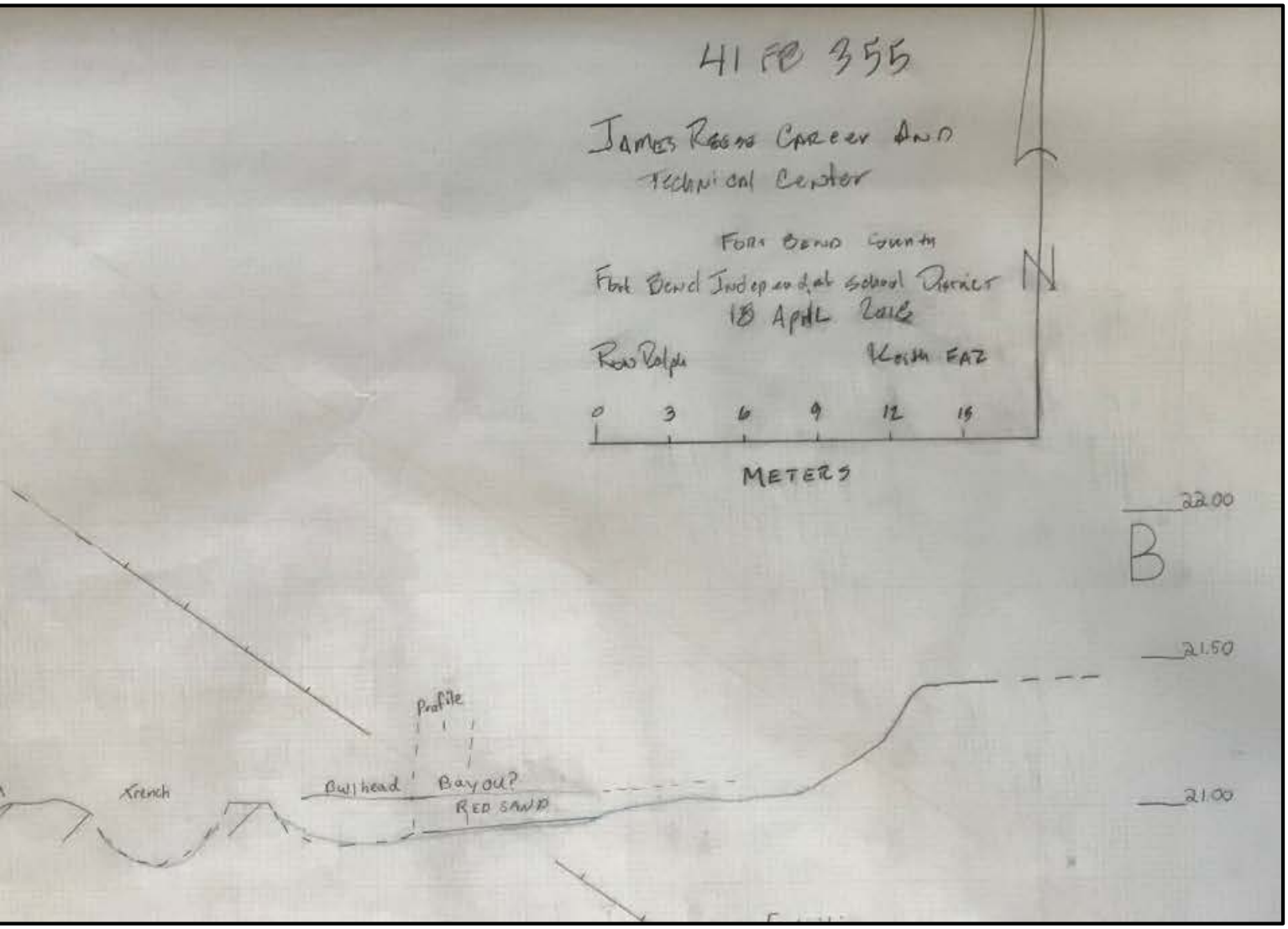
Level
Unexcavated


41 FB 355
James Reagan Career and
Technical Center
Fort Bend County
Fort Bend Independent School District
18 April 2016
Ron Ralph
Keith EAZ
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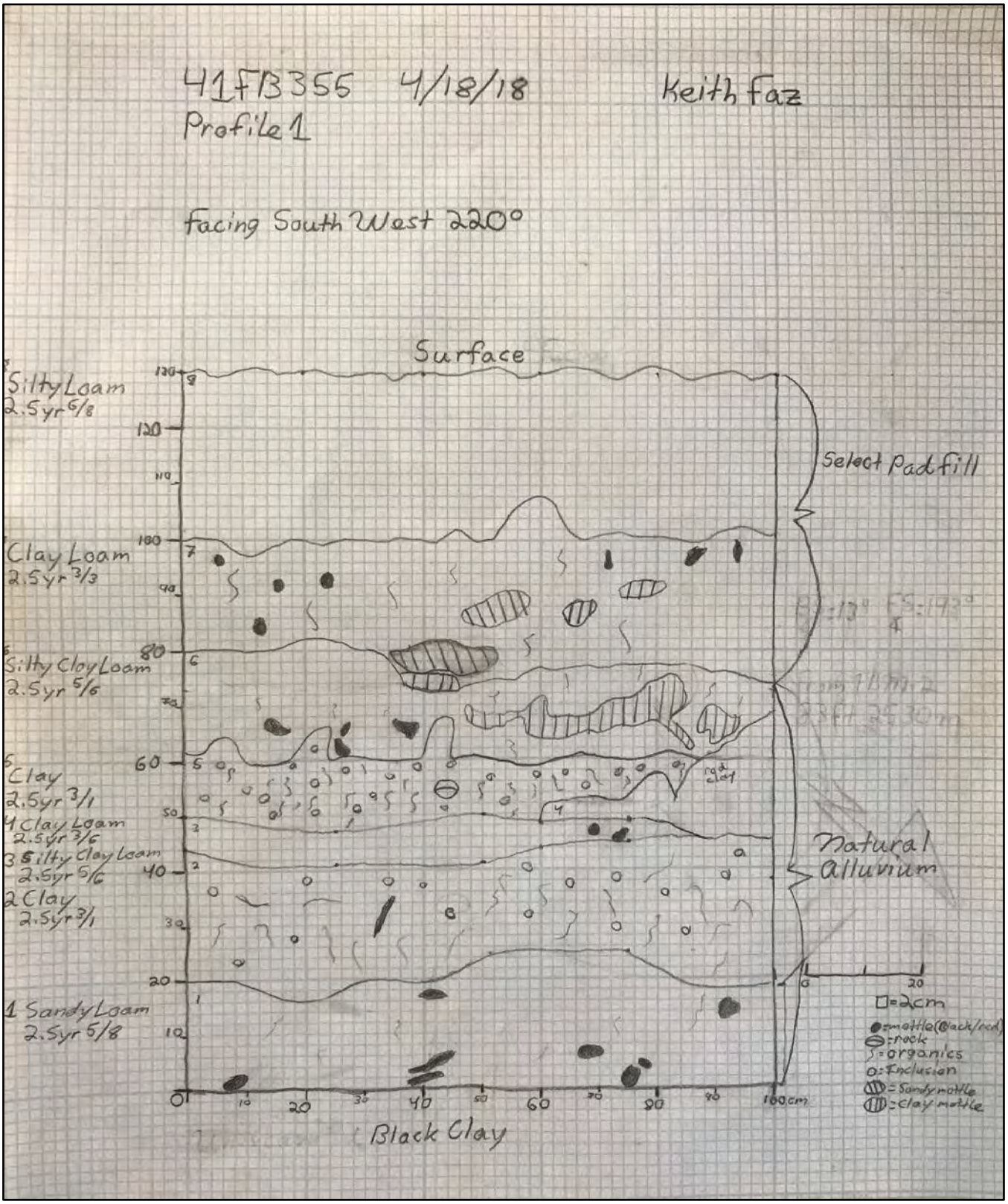
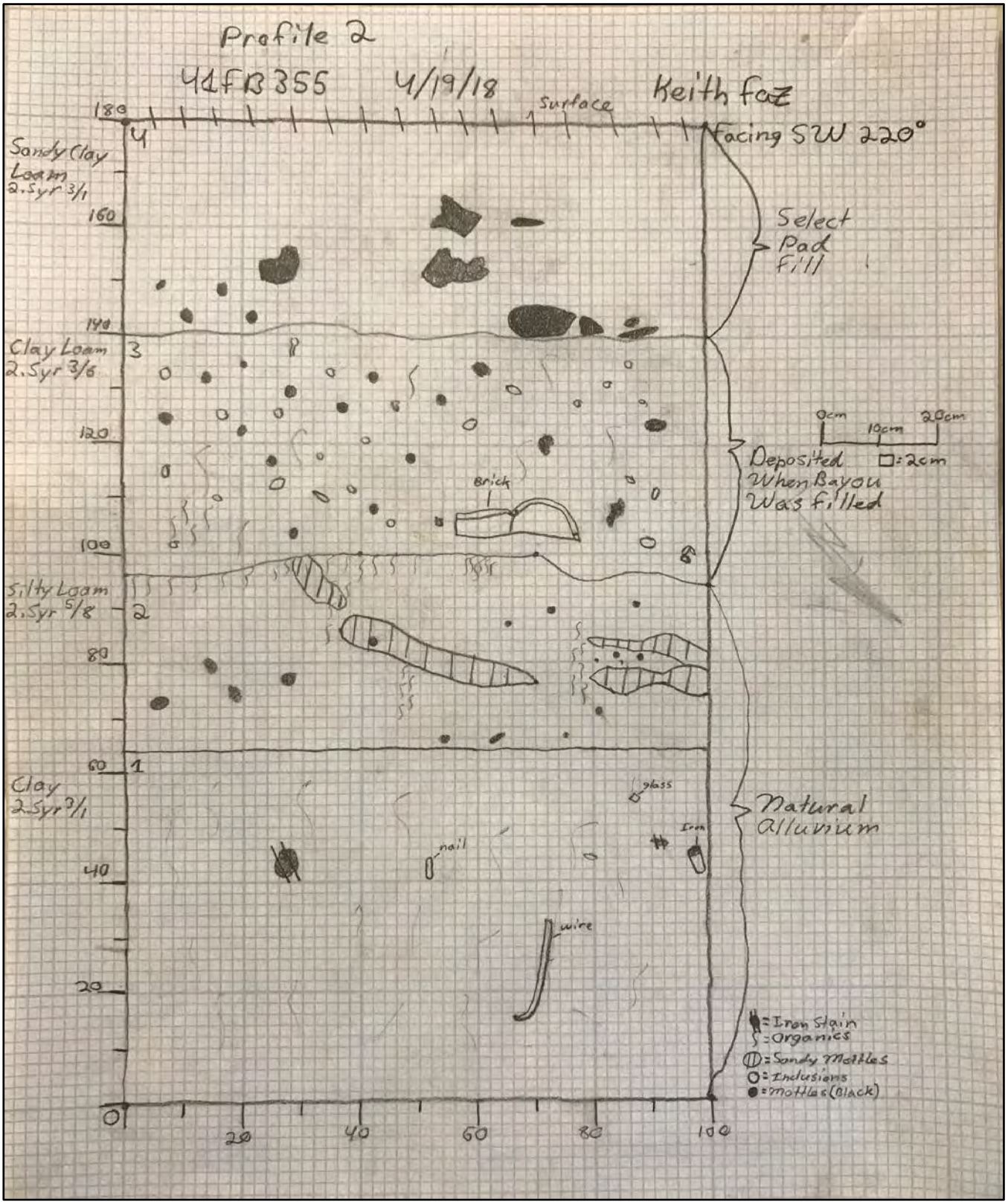
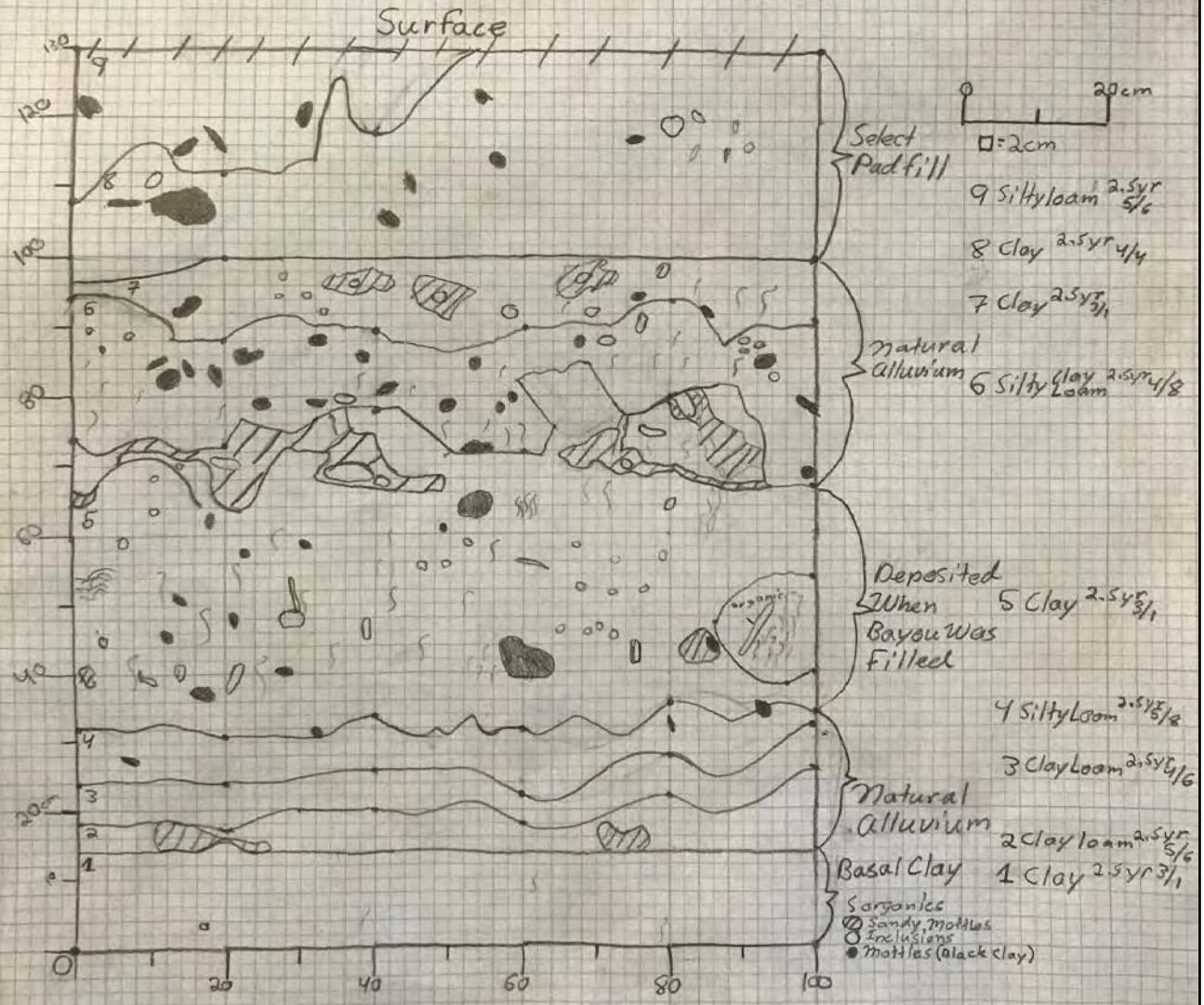
METERS
N
22.00
B
21.50
21.00
Profile
Trench
Bulhead
Bayou?
RED SAND


41FB355 4/18/18
Keith Faz
Profile 1
Facing South West 220°
Surface
8 Silty Loam 2.5yr 6/8
7 Clay Loam 2.5yr 3/3
6 Silty Clay Loam 2.5yr 5/6
5 Clay 2.5yr 3/1
4 Clay Loam 2.5yr 3/6
3 Silty Clay Loam 2.5yr 5/6
2 Clay 2.5yr 3/1
1 Sandy Loam 2.5yr 5/8
Select Pad fill
Natural Alluvium
Black Clay
0 10 20 30 40 50 60 70 80 90 100cm
0 20
□=2cm
●=mottle(black/red)
⊖=rock
ʃ=organics
o=Inclusion
=Sandy mottle
=Clay mottle


Profile 2
41fB355
4/19/18
Keith Faz
surface
Facing SW 220°
Sandy Clay Loam 2.5yr 3/1
Clay Loam 2.5yr 3/6
Silty Loam 2.5yr 5/8
Clay 2.5yr 3/1
Select Pad Fill
Deposited When Bayou Was filled
Natural Alluvium
brick
glass
nail
Iron
wire
0cm
10cm
20cm
□=2cm
=Iron Stain
=Organics
=Sandy Mottles
=Inclusions
=mottles (Black)

41FB355
Profile 3
Facing SW 230°

Keith Faz
04/21/18



41FB355, REPRESENTATIVE PHOTOGRAPHS

Photo 1: FBISD, Excavation Block in Trench A, Overview, Facing West

Photo 2: FBISD, Trench A, Photograph, Profile 1 in Slough Deposit, Facing Southwest

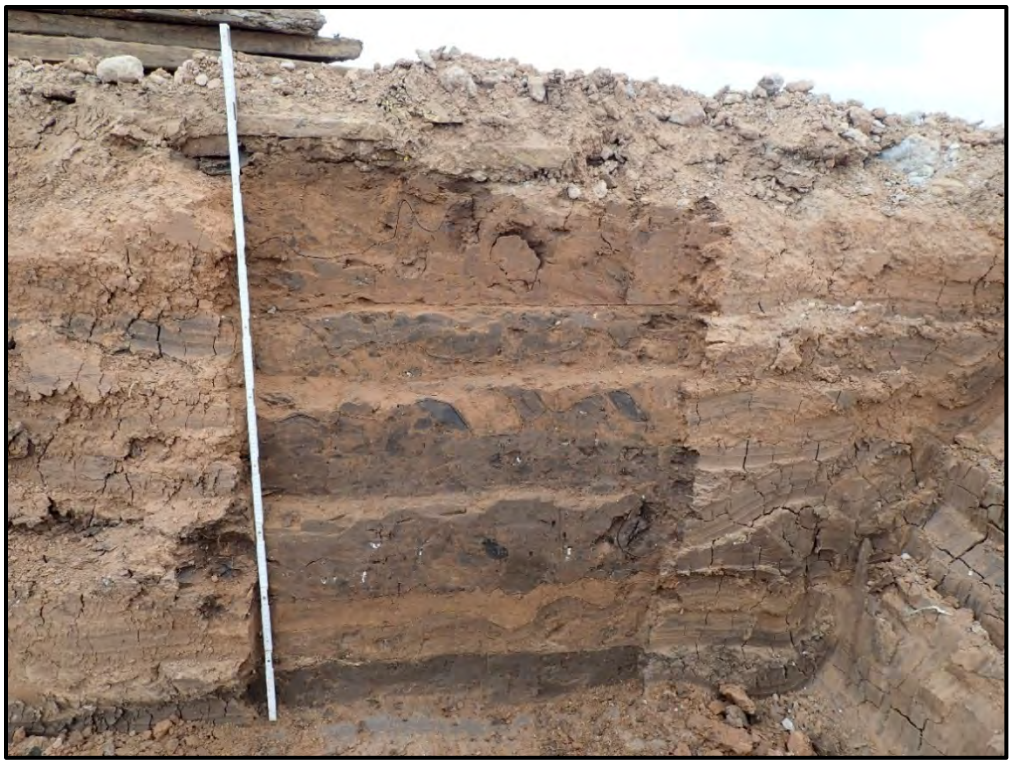


Photo 3: FBISD, Trench A, Photograph, Profile 3 on South Terrace of Slough, Facing Southwest

Photo 4: FBISD, Trench B Excavation Block on South Terrace of Slough. Looking Northwest

Photo 5: FBISD, Trench B, Photograph, Profile 2 on Terrace, Facing Southwest

Photo 6: FBISD, Trench C Only Crossed Slough Deposit, Overview, Facing North

GOSHAWK
ENVIRONMENTAL CONSULTING, INC.

10 September 2018

Bill Martin
Texas Historical Commission
1511 Colorado Street
Austin, TX 78711

RE: Progress Update and Notice of Completion of Exhumation of 95 Burials and One Empty Coffin at Site 41FB355, 23-acre James Reese Career and Technology Center-TAC Permit #8197 Fort Bend Independent School District, Sugar Land, Fort Bend County, Texas

Dear Mr. Martin:

The purpose of this letter report is to notify the Texas Historical Commission that excavations proposed under the Scope of Work dated 1 June 2018 under Texas Antiquities Committee Permit #8197 were completed on 1 September 2018. The Scope of Work dated 1 June 2018 called for continued excavator scraping to identify additional burials; removal of human remains; analysis of human remains and associated funerary items; and preparation for reinterment at a site to be determined by Fort Bend Independent School District (FBISD). The historic cemetery is located on the 23-acre (9.3-hectare) James Reese Career and Technology Center that is currently under construction by the FBISD and located approximately 2,756 feet (840 meters) south of the intersection of State Highway 6 and United States Highway 90 in Sugar Land, Texas. The scope was based on need arising from the results of the accidental discovery of human bones on 19 February 2018, subsequent exploratory excavations at site 41FB355, field assessment by Dr. Catrina Whitley, and numerous discussions with Texas Historical Commission (THC) personnel. All work has been or is being conducted under existing Antiquities Permit #8197, issued by the THC and sponsored by FBISD, for the 23-acre complex containing archeological site 41FB355.

Archival Research

Goshawk's research team is currently conducting archival research at the Texas Department of Criminal Justice Archives, the Texas State Library, the Texas Prison Museum Archives, the Fort Bend County Courthouse, and numerous other repositories to identify the true nature of the Ellis Camp #1 Cemetery excavated at the James Reese Site and to identify those individuals interred there. So far, six individuals have been identified as having died and almost undoubtedly buried at Ellis Camp #1. Numerous geo-referenced historic aerials and other important historic map resources have been supplied by the Fort Bend Historical Commission. It should be noted that historic aerial photography indicates extensive reshaping of the land. Bullhead Bayou was re-channelized by the local Drainage District and moved to the north forming a large arc around the project site. This reshaping appears to be responsible for destruction of one of the historic structures indicated on earlier aerials and maps, and likely caused the displacement of burials.

Burial Exhumation

An Order to Exhume human remains located at the James Reese Site for the purposes of further historical investigation was granted by the District Court on 4 June 2018. Crew and equipment were brought to site 41FB355 on 5 and 6 June 2018 and exhumation was initiated the following day on 7

June. Goshawk provided a 100 percent presence of crew during the exhumation process. Crew ranged between four and 14 crew members at any one time. Excavation of each identified location was conducted by trained Physical Anthropologists and Archeological Technicians, leaving all remains and artifacts in-situ for an initial assessment by the Bioarcheologist and her assistants. Excavation of each burial was completed by hand by two-person or three-person crews. All grave fill removed during excavation was dry screened. Each interment was documented by complete mapping of each exposed burial and completion of a standardized burial excavation form packet. Once each burial was exposed, the remains were photographed in plan view. In the case of articulated or nearly articulated burials, digital photogrammetry was utilized to create three-dimensional imagery of each burial.

Once all in-ground documentation was completed, each burial was delicately extracted from the ground by the Bioarcheologist or Physical Anthropologists and relocated to the on-site field laboratory in a temporary vessel. All remaining grave fill was removed after skeletal extraction and was wet screened. Spatial control was maintained with the use of a total station, compass and tape mapping, sub-meter GPS mapping, and aerial photography by drone.

The exhumation and over-dig phase was completed on 1 September 2018, a total of 87 crew days from start to finish. Once all burials were extracted, mechanical excavation was continued to a depth of 1 to 2 feet (30 to 60 centimeters) deeper than the bottom elevation of the grave shafts and out to the edge of the Administrative Cemetery Boundary (15-meter buffer around graves) to be certain that any remaining interment within the excavation block was found. Once all over-dig excavations were completed and all burials had been exhumed, a total of 95 interments and a single empty coffin were removed from the ground.

BURIAL ANALYSIS AND PREPARATION FOR REINTERMENT

Once moved to the on-site laboratory, Dr. Catrina Whitley (Bioarcheologist) and her assistants washed and analyzed each individual set of remains. **This process is approximately 70 percent complete as of this writing.** These non-destructive laboratory investigations have included bone measurements, x-rays, and comparative studies to determine ethnicity, sex, age at death, stature, pathological conditions, musculoskeletal stress changes, health profiles, and cause of death in a few cases. Sediment samples were collected to study parasitic loads and to assist in the determination of sanitary conditions. Approximately 20 of these sediment samples will soon be analyzed by an outside laboratory. In a very few situations, dental calculus (plaque) has been collected to assist with diet reconstruction. Detail photographs are being taken of all human remains with pathology. Once analysis is complete, burials will be prepared for reinterment in permanent burial vessels.

Permission for collection of material from each burial for isotope and full spectrum DNA analysis has been requested from the THC. These techniques are considered destructive or invasive. None of these methods will be employed without written permission from the Texas Historical Commission and the State Archeologist. As of this date, authorization for invasive analysis has not been obtained. We propose that two molars and one incisor be collected, for future scientific analysis and for possible other studies not included in this scope.

Burials will not be removed from the construction site at 12300 University Boulevard for any reason other than temporary removal for radiography or proposed special analysis until permission is granted by court order for reinterment. **Radiographs have not yet been taken as of this writing but should be accomplished in the coming weeks.**

Artifact Analysis and Records Curation

Goshawk is in the process of analyzing all artifact assemblages (including nails and coffin wood) associated with each burial. Except in the case that special samples are permitted for destructive analysis, all materials will be returned to each burial for reinterment. Artifacts from a secondary context are being cleaned and analyzed by Goshawk and may be prepared for curation at an appropriate registered repository. Paperwork including forms, maps, sketches, and photographic logs will be curated in an approved and regionally appropriate curation facility. Any collected field paperwork and photography will be prepared for curation in accordance with the Antiquities Code of Texas and the provisions of TAC Permit #8197.

Public Outreach

Goshawk has collaborated with FBISD to provide opportunities for interested parties to learn about the exhumation and analysis processes employed during the project. Interested parties have thus far included residents, students, stakeholders, avocational archeologists, members of local historical societies, agents of the media, and other political groups. Presentations concerning the project have been given numerous times at the request of the stakeholders. Goshawk Archeologists now serve as advisors on the Sugar Land City Manager's Task Force for the Memorialization and Reinterment of the burials found at the James Reese Site.

Document Preparation and Production

A full report of archeological investigations, following CTA reporting standards, will be prepared and submitted to the THC in accordance with the requirements of TAC permit #8197. The report will document all fieldwork conducted within the 23-acre James Reese Career and Technology Center site, human skeletal remains and funerary item analysis, and interpretations. Once the report is accepted and finalized, a minimum of 24 copies of the report will be produced and submitted to approved repositories and interested parties in compliance with the provisions of the TAC permit.

Summary

At this time, 95 interments and a single empty coffin have been exhumed and are currently in analysis on the James Reese Site. All four boundaries of the cemetery have been determined. A 50-foot (15-meter) buffer has been established along the west, north, and east cemetery boundaries. The old channel of Bullhead Bayou was determined as the south boundary. Once analysis is complete and a court order is obtained for reinterment, the remains will be reinterred in a timely manner at a location to be determined. As was indicated in the Scope of Work dated 1 June 2018, this letter report of investigations was prepared upon completion of fieldwork (exhumation and over-dig) for submittal to the THC for concurrence. After THC concurrence, permission for FBISD to resume construction activities within the boundaries of the cemetery will be sought. This process entails filing a petition

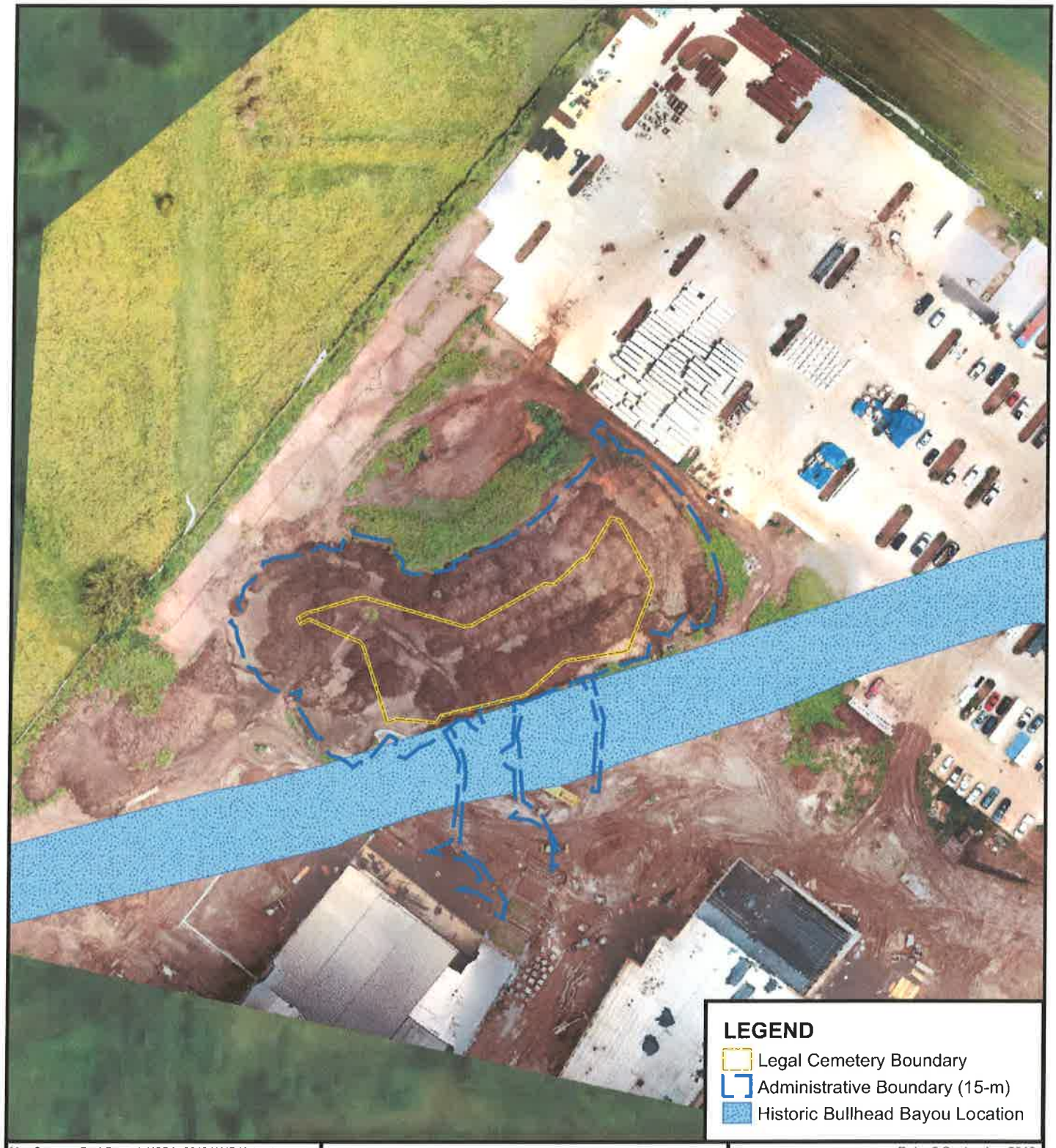
of the District Court to lift the designation of abandoned cemetery from the FBISD site and to approve reinterment at the Imperial Prison Farm Cemetery, owned by the City of Sugar Land, located approximately a half-mile west of the James Reese Site.

Please call me on my cell (512-419-8424) or contact me by email (rclark@goshawkenv.com) for any discussion, clarification, or further requests for information regarding this Notice of Completion for this portion of the project and overall Progress Update.

Reign Clark

Reign Clark
Cultural Resources Director
Goshawk Environmental Consulting, Inc.

CONCUR
by William A. Martin
for Mark Wolfe
State Historic Preservation Officer
Date 9/10/18
Track#



Map Sources: BackGround: USDA, 2012 NAIP Natural Color Imagery for Texas. Recent Aerial Imagery: Tom Byrd, Drone Flight Conducted 6 September 2018

0 50 100 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

Figure 1
Cemetery Boundary and Final Over-dig
Fort Bend County, Texas

Fort Bend ISD
James Reese CTC

Date: 6 September 2018

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Photo 1: Over-dig Through Central Excavation Block, Facing South.

Photo 2: Over-dig near Brick Building Foundation, Facing West.

Photo 3: Over-dig along North Central Portion of Excavation Block, Facing Northeast.

Photo 4: General View during Over-dig, Facing West.

Photo 5: Over-dig West Central Excavation Block, Facing West.

Photo 6: Over-dig South Edge along Bullhead Bayou, Facing East.

Photo 7: Over-dig Northwest Portion of Excavation Block, Facing Northwest.

Photo 8: Wall Stabilization and Over-dig in Southwest Excavation Block, Facing Southwest.

APPENDIX B

SCOPES OF WORK

10 October 2017

Bill Martin
Texas Historical Commission
1511 Colorado Street
Austin, TX 78711

Re: Scope of Work: Construction Monitoring
23-acre James Reese Career and Technology Center
Fort Bend Independent School District
Sugar Land, Fort Bend County, Texas

Dear Mr. Martin:

The following is a proposed Scope of Work for archeological monitoring and backhoe testing on the 23-acre James Reese Career and Technology Center which is located approximately 840 meters south of the intersection of State Highway 6 and United States Highway 90, Sugarland, Texas (see attached Aerial Vicinity Photo, Aerial Project Photo, and Topographic map). This scope is based on archival research conducted on 9 October 2017 as well as discussions with Texas Historical Commission (THC) personnel. Archeological monitoring and testing will be conducted under a Texas Antiquities Committee (TAC) permit.

INTRODUCTION

The 23-acre James Reese Career and Technology Center is on one tract of land associated with the historic State Prison Farm. Goshawk Environmental Consultants, Inc. (Goshawk) understands that the Fort Bend Independent School District (ISD) proposes to develop the tract as a school facility and construction may adversely affect potentially significant historic archeological sites including possible inmate burials from previous ownership. Below you will find the outlined Scope of Work for construction monitoring and testing techniques, curation of the assemblage (artifacts and paperwork), and preparation of a report of investigations following the guidelines of the Council of Texas Archeologists (CTA) suitable for submission to THC.

SCOPE OF WORK

ARCHIVAL RESEARCH

Many repositories containing historic archives pertaining to the 23-acre James Reese Career and Technology Center have already been identified. Goshawk will conduct further archival research at these repositories, conduct interviews with local informants (if possible), and/or conduct county records research to develop an historic context and chain of title for the 23-acre tract. The historic context will serve to develop a better understanding of the tract, in all iterations, from the Republic of Texas era through its tenure as a portion of the Texas State Prison system. The results of this research will be included as a chapter in the report of archeological investigations. Structures which may have been located within the project boundaries include a farmstead and a barn/corral complex as seen on historic aerial photography. These features will be examined if remnants are found during monitoring.

It should be noted that historic aerial photography indicates extensive reshaping of the land. Particularly, Bullhead Bayou has been re-channelized and moved to the north forming a large arc around the project area. This reshaping, conducted by the drainage district, was responsible for at least the partial destruction of one historic property seen on earlier maps.

Archeological Monitoring

Two archeologists will monitor all earth-moving associated with land clearing and preliminary grading. Should historic sites be located, they will be flagged and avoided until additional archeological investigations can be conducted. Smaller historic features and prehistoric sites will be treated in the same manner. This operation may last up to two weeks. Artifacts will not be collected unless they have a distinct bearing on age or function of identified sites or features. Goshawk considers this a non-collecting project.

Archeological Trenching

During or directly following land clearing, single-set backhoe trenching, approximately one per acre, will be utilized to ground truth anomalies discovered and flagged during monitoring. Trenching will also be used to identify soil discolorations, document soil stratigraphy, and locate buried features. Trench locations will be recorded and trench wall stratigraphy will be photo-documented and/or sketched. The trenching operation will last approximately one week.

Any cultural manifestations discovered during survey will be documented. Newly discovered sites and features will be recorded using standard State of Texas site recording forms and hand-drawn sketch maps will be produced for each site. Any temporally diagnostic artifacts recovered during monitoring and site recording will be collected in accordance with the Antiquities Code of Texas and provisions set out in the TAC permit. Examples of artifacts that will not be collected are bulk items such as fire-cracked rocks, large bulk matrix samples associated with prehistoric features, or building materials associated with historic structures. Small samples of these material classes may be collected for analysis.

Artifact Analysis and Curation

Depending on whether a site is documented and the nature of diagnostic artifacts collected, Goshawk will curate the collected artifact assemblages. Artifacts will be cleaned, analyzed, and prepared for curation at a registered repository. Paperwork including forms, maps, sketches and photographic logs, will also be curated in the repository. If any prehistoric features are identified, soil samples may be collected for macro botanical analysis.

Document Preparation and Production

A report of archeological investigations, following CTA standards, will be prepared and submitted to the THC in accordance with the requirements of the issued TAC permit. The report will document all fieldwork conducted within the 23-acre James Reese Career and Technology Center tract. Once the report is accepted and finalized, at least 20 copies of the report will be produced and submitted to repositories around the state in compliance with the provisions of the TAC permit.

PROJECT TIMELINE

Goshawk will submit the TAC Permit application directly following approval of this Scope of Work. The field effort is anticipated to begin as early as 11 October 2017. Up to four weeks will be required after fieldwork to compile data, prepare figures, and produce the report of investigations. A draft report will be submitted to the THC for review. It is understood that the typical timeframe for THC review is 30 days.

Please call me on my cell (512-419-8424) or contact me by email (rclark@goshawkenv.com) for any discussion, clarification, or further requests for information regarding the Scope of Work of this project.

Sincerely,

Reign Clark

Reign Clark
Cultural Resources Director
Goshawk Environmental Consulting, Inc.

Map Source: USDA, 2014 NAIP Natural Color Imagery for Texas.

0 1,000 2,000 Feet

GOSHAWK
ENVIRONMENTAL CONSULTING, INC.

FIGURE
Aerial Orthoimagery
Fort Bend County, Texas

James Reese Career and Technology Center
+/- 23 Acres
Sugar Land, TX

Date: 10 October 2017

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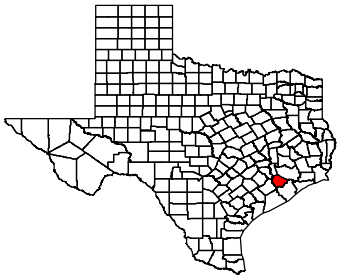

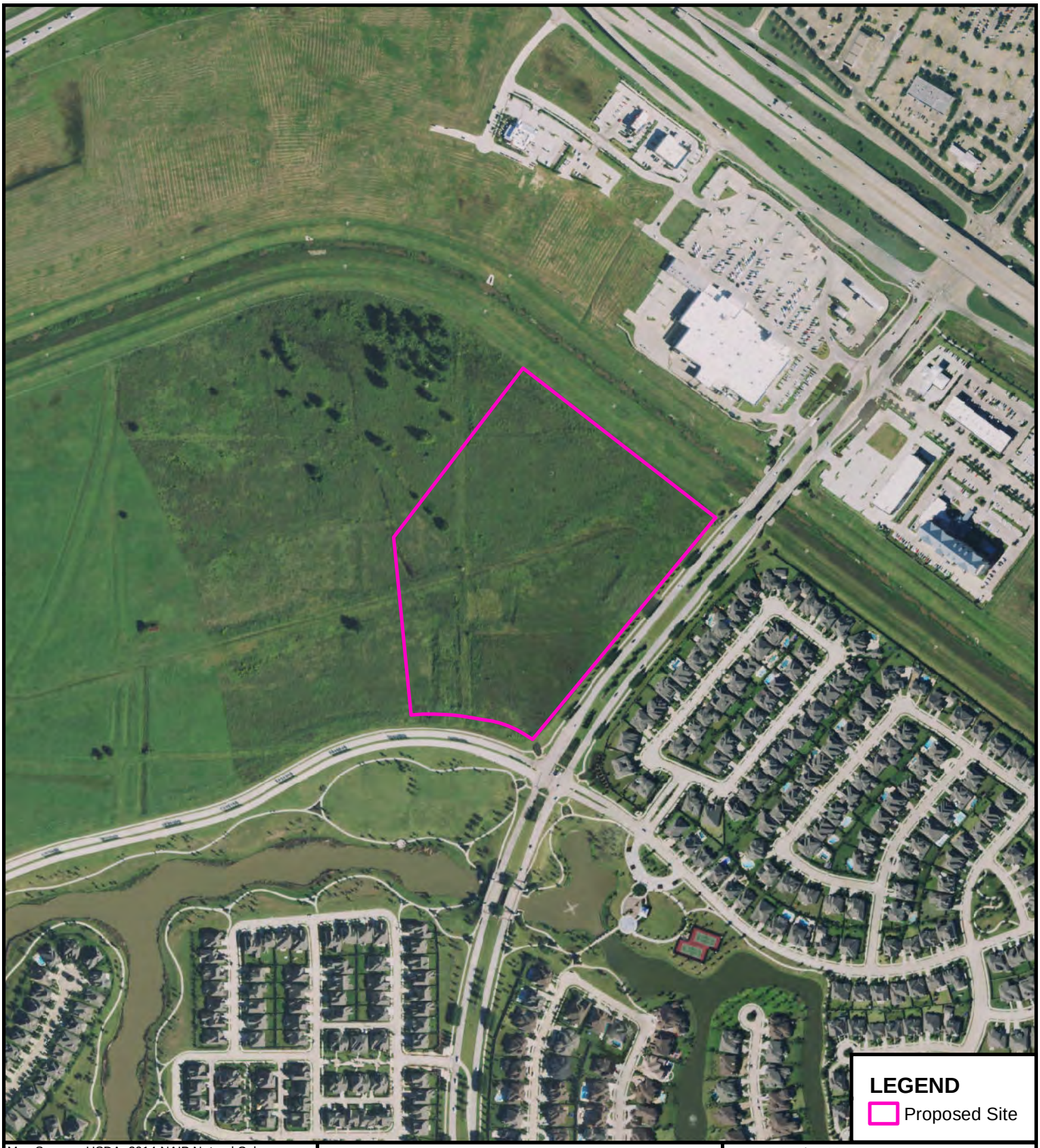

Map Source: USDA, 2014 NAIP Natural Color Imagery for Texas.

0 250 500 Feet

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE
Aerial Orthoimagery
Fort Bend County, Texas

James Reese Career and Technology Center
+/- 23 Acres
Sugar Land, TX

Date: 10 October 2017

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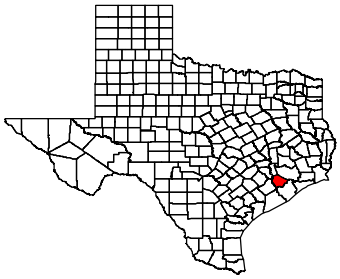
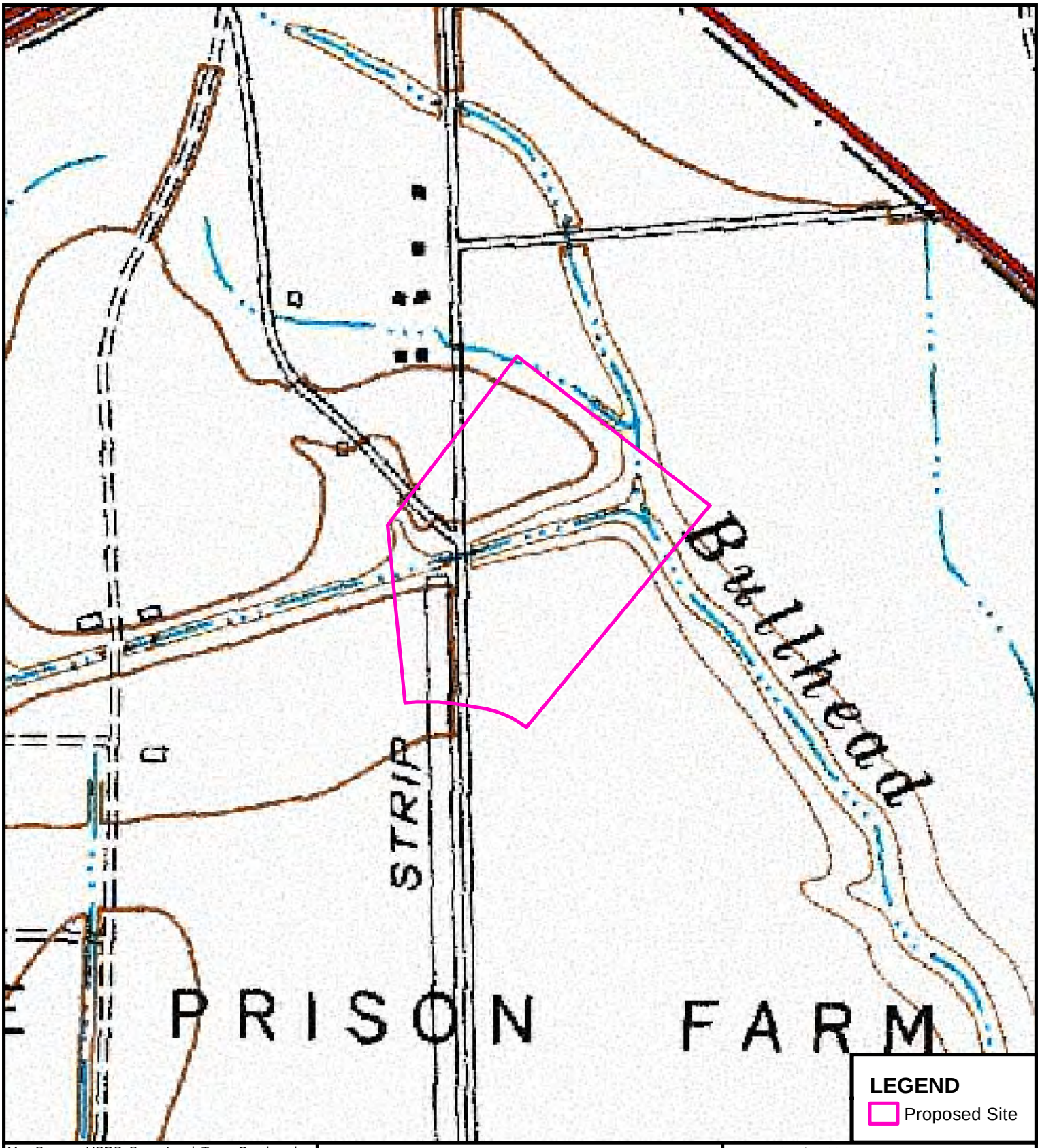




Map Source: USGS, Sugar Land, Texas Quadrangle.

0 250 500 Feet

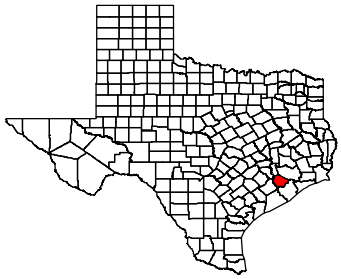
GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE
USGS Topography
Fort Bend County, Texas

James Reese Career and Technology Center
+/- 23 Acres
Sugar Land, TX

Date: 10 October 2017

N



8 March 2018

James Reese Career and Technology Center
Emergency Discovery Scope of Work

Principal Investigator: Ron Ralph
Project Manager: Reign Clark
Project Historian: Reign Clark
Osteologist: Dr. Catrina Whitley
Crew: Steve Evans, Emily van Zanten, Keith Faz, Phil Schoch and others as required
Sponsor: Fort Bend Independent School District
TAC Permit: #8197

The following Scope of Work (Scope) is considered an extension of the monitoring and trenching survey conducted under the existing Texas Antiquities Committee (TAC) Permit #8197. This Scope covers consultation with Texas Historical Commission (THC), cleanup/screening of disturbed soils, removal of 15-inch corrugated plastic pipe and non-native fill from the bone discovery area, hand excavation of up to four cubic meters of soil to identify and uncover the probable interments, consultation assistance with pertinent Native American tribes, site documentation, and preparation of the cultural resources report of investigations for submission to THC.

Background

Goshawk staff met with Bill Martin (Archeological Reviewer) and Pat Mercado-Allinger (Division Director) of the THC on 22 February 2018 to discuss ramifications of the accidental discovery of prehistoric materials during construction of the James Reese Career and Technology Center (JRCTC) site. At the time of the meeting, the bone recovered from the JRCTC site was not yet identified as human remains. This meeting resulted in a plan to proceed with excavations to identify the source of diagnostic artifact, possible organic preservation, and possible undisturbed features at the prehistoric site. On 26 February 2018, Goshawk received an email from Inspector Martinez, of the Fort Bend Independent School District (Fort Bend ISD) Police, with an attachment detailing the results of the assessment made by Forensic Anthropologist, Dr. Joan Bytheway of Sam Houston State University. The bone was identified as being from at least two human adults, most likely associated with prehistoric interments. Based on Dr. Bytheway's revelation, Goshawk contacted Bill Martin regarding specific regulations pertaining to identification of Native American burials on State-controlled lands and appropriate methodologies for excavation, removal, and relocation/repatriation of those interments. As a result of this discussion, the following Scope was devised. Goshawk can begin implementing the Scope upon written approval by Fort Bend ISD and the Texas Historical Commission.

Scope of Work

Goshawk proposes to conduct exploratory excavations at the site of the accidental discovery to identify intact interments and effect the removal and relocation/repatriation of the burials. The accidental discovery of human bone was made during backfill of a trench excavated for a 15-inch corrugated plastic pipe. As such, bone and prehistoric artifacts, likely associated with human burials, were displaced and mixed with backfill soil. The surrounding artifact-laden backfill soil and upper trench fill in the vicinity of the accidental discovery will be removed by hand and machine and screened to retrieve displaced bone and prehistoric artifacts. Removed soil and trench fill will be dry screened or wet screened (with optional pre-soaking of matrix) using a ¼" mesh hardware cloth.

Once displaced matrix has been processed, the corrugated plastic pipe and cement/sand bedding mixture will be removed with a mini excavator. The sidewalls and floor of the open trench will be cleaned by hand and thoroughly inspected for bone, artifacts, and soil staining. Any portion of the trench flagged as a possible source of bone and artifacts will be sketched and/or photographed. This exploratory phase is anticipated to require a crew of three for five days.

One-meter units will be laid out over likely sources of bone (identified in the trench sidewalls or floor) and controlled hand excavation will commence. Ten-centimeter levels will be utilized with upper disturbed or sterile levels shoveled down to identified bone levels. Levels will continue to be screened through ¼" mesh and either dry screened or wet screened, as necessary. Each unit and level will be kept separate and recovered artifacts will be tagged and bagged with appropriate field designations. Excavation will continue until bone material is encountered and any associated burial materials are identified. If a human burial is encountered that appears in any way modern, law enforcement will be called, once again, to investigate.

It is difficult to estimate the volume of material required to be moved during excavation. Therefore, Goshawk has estimated hand-excavation of up to four cubic meters of soil during the exploratory phase in sterile or disturbed soils. Once the top of the burial(s) is reached and the nature of the burial(s) is better understood, excavation will halt. The remains will be covered with plastic sheeting, partly backfilled and then sandbagged for protection and stabilization until further excavation is conducted and final disposition is determined. If found to be of Native American affiliation, consultation with the pertinent tribes should be initiated by Fort Bend ISD to determine if any tribe will claim the remains. Bone and objects recovered from the screened, displaced soils will be collected so they may be reunited with the disturbed remains.

It must be understood by all involved, that no human remains will be further displaced or removed from the site until permission is granted by the tribal claimant, next of kin, the THC, and/or chief regulatory agency or authority. This excavation phase is anticipated to require a crew of six for nine days.

It is likely additional intact burials are present near the accidental discovery. To locate such burials (if present), Goshawk will utilize a mini excavator to scrape or remove overburden in a 10-meter radius of human remains exposed during hand excavations to identify burial shafts or other identifying

characteristics of burials. If additional burials are identified or suspected, hand excavation will resume until the top of each burial is reached and the nature of each burial is better understood. At that point, hand excavation of those burials will halt.

Should Native American burials be defined, Goshawk will assist Fort Bend ISD with consultation in compliance with the Native American Graves Protection and Repatriation Act (NAGPRA). Once permission for removal is granted, Goshawk will perform the excavations, with an osteologist present, to study and document characteristics of the interments. Burials will be prepared for curation and/or repatriation/reburial with the assistance of the Texas Archeological Research Laboratory (TARL) and the THC. Prehistoric diagnostic artifacts not associated with a burial, as well as field paperwork, maps, and project photography, will be prepared for curation at TARL in accordance with the Antiquities Code of Texas and the provisions of TAC Permit #8197.

Project Timeline

Exploratory excavation is anticipated to require up to two weeks to complete. Once the nature of the burial(s) is understood, the THC will be notified. In the event of Native American burials, tribal notification will be initiated by Fort Bend ISD. It is unclear how long the permitting process will take as NAGPRA consultation can range between 15 and 60 days for response. Once permission or permits are obtained, the burials will be removed for curation, repatriation/reburial. Once the burials are removed, construction in the accidental discovery area can resume with THC/tribal approval. Archival research, artifact and macrobotanical analysis, curation preparation, and reporting is anticipated to require at least six weeks to complete. A draft report of findings will then be submitted to the project proponent for their approval, then to THC for review and concurrence. The typical timeframe for THC review is 30 days. A finalized report of findings and THC reviewer concurrence will be provided to Fort Bend ISD. In addition, 20 copies of the report will be printed for distribution to approved repositories.

Sincerely,

Reign Clark

Reign Clark
Cultural Resources Director

15 May 2018

Bill Martin
Texas Historical Commission
1511 Colorado Street
Austin, TX 78711

Re: Scope of Work for Exhumation and Analysis of 94-Plus Burials at site 41FB355
23-acre James Reese Career and Technology Center
Fort Bend Independent School District,
Sugar Land, Fort Bend County, Texas

Dear Mr. Martin:

The following is a proposed Scope of Work for continued excavator scraping to identify burials; removal of human remains; analysis of human remains and associated funerary items; and preparation for reinterment at a site to be determined by others. The historic cemetery is located on the 23-acre (9.3-hectare) James Reese Career and Technology Center that is currently under construction by the Fort Bend Independent School District (FBISD) and located approximately 2756 feet (840 meters) south of the intersection of State Highway 6 and United States Highway 90 in Sugar Land, Texas. This scope is based on need arising from the results of the accidental discovery of human bones on 19 February 2018, exploratory excavations at site 41FB355, field assessment by Dr. Catrina Whitley, and on numerous discussions with Texas Historical Commission (THC) personnel. All work will be conducted under existing Antiquities Permit #8197, issued by the THC and sponsored by FBISD, for the 23-acre complex containing archeological site 41FB355.

Introduction

The 23-acre James Reese Career and Technology Center is on a tract of land associated with the historic Central State Prison Farm. The tract was previously owned by Littleberry as part of the Sartartia Plantation and, later, by Imperial Sugar. Goshawk Environmental Consultants, Inc. (Goshawk) understands construction inadvertently affected significant historic burials interred during previous ownership. Below is the proposed Scope of Work for the identification and exposure of 94 or more burials; disinterment; laboratory analysis of human remains and associated funerary items; preparation of all burials for reinterment; curation of the assemblage (paperwork); and preparation of a report of investigations following the guidelines of the Council of Texas Archeologists (CTA) suitable for submission to THC.

Archival Research

Many repositories containing historic archives pertaining to site 41FB355 have already been identified. Goshawk will conduct further archival research at these repositories, conduct interviews with local informants (if possible), and/or conduct county records research to develop an historic context and chain of title for the 23-acre tract. The historic context will serve to develop a better understanding of the tract from the Republic of Texas era through its tenure as a part of the Texas State Prison system. The results of this research will be included as a chapter in the report of

archeological investigations. Structures which may have been located within the project boundaries include a farmstead and a barn/corral complex as seen on 1941 and later aerial photography and the 1957 USGS topographic map. These features and others will be examined if remnants have been found during excavation. It should be noted that historic aerial photography indicates extensive reshaping of the land. Particularly, Bullhead Bayou was re-channelized and moved to the north forming a large arc around the project area. This reshaping, conducted by the Drainage District, was responsible for at least the partial destruction of one historic property seen on earlier maps.

Burial Exhumation

Once permission for removal of the burials is granted, Goshawk will excavate each location, leaving all bone and artifacts in-situ for an initial assessment by a forensic anthropologist who will be present to study and document characteristics of the interments. Excavation will be completed by hand two-person crews. Once each burial is exposed, remains will be photographed, removed from the ground, and relocated in an appropriate vessel to the field laboratory already on site. Spatial control will be maintained with the use of a total station and intermittent aerial photography by drone. It is anticipated that the excavation phase will proceed at a rate of between one and two interments per day. Once all currently identified burials have been disinterred, mechanical excavation will resume to a depth of 30 to 60 cm deeper than the current floor elevation to be certain that any remaining interment is found. These outliers will be hand excavated and subjected to customary analysis as were the 94-plus interments, as described in detail below.

Burial Analysis and Preparation for Reinterment

Once moved to the mobile on-site laboratory, Dr. Catrina Whitley (forensic anthropologist) and her assistants will analyze each individual set of remains. Laboratory investigations will include bone measurements and comparative studies to determine ethnicity, sex, age at death, stature, pathological conditions, musculoskeletal stress changes, health profiles, x-rays of bone, and cause of death (if possible). At a minimum, photographs will be taken of all human remains. Once analysis is complete, burials will be prepared for reinterment.

Collection of material from each burial for the purpose of parasitological, isotope, and mitochondrial DNA analysis, and other laboratory techniques may be accomplished to further identify selected individuals. Sediment samples may be collected to study parasitic loads and assist in the determination of sanitary conditions. Collection of dental calculus (plaque) can be used for diet reconstruction. Costs and descriptions for these analyses are included with this Scope of Work as an attachment.

If FBISD petition's the district court pursuant to Texas Health and Safety Code sections 711.004 and 711.010, and such petition is granted, the human remains and associated funerary items will be relocated to a perpetual care cemetery or a municipal or county cemetery in compliance with Texas Health and Safety Code section 711.010(b). All human remains and associated funerary items will be reburied in an approved location.

It must be understood by all involved that no bone will be exhumed prior to a court order from a local district court judge. Further, burials will not be removed from the construction site at 12300 University Boulevard for any reason other than temporary removal for the purpose of x-ray analysis until permission is granted by court order for the purpose of reinterment.

Artifact Analysis and Records Curation

Goshawk will collect and analyze artifact assemblages (including nails and coffin wood) associated with each burial. These materials will be returned to each interment for reburial. Artifacts from a secondary context will be cleaned and analyzed by Goshawk, and may be prepared for curation at the Fort Bend County Museum or other appropriate registered repository. Paperwork including forms, maps, sketches, and photographic logs will be curated in an approved and regionally appropriate curation facility. Any collected field paperwork and photography will be prepared for curation in accordance with the Antiquities Code of Texas and the provisions of TAC Permit #8197. Soil samples may be collected for later Macrobotanical or other analysis.

Document Preparation and Production

A report of archeological investigations, following CTA and professional forensic reporting standards, will be prepared and submitted to the THC in accordance with the requirements of TAC permit #8197. The report(s) will document all fieldwork conducted within the 23-acre James Reese Career and Technology Center tract, human skeletal remains and funerary item analysis, and interpretations. Once the report is accepted and finalized, at least 20 copies of the report will be produced and submitted to approved repositories in compliance with the provisions of the TAC permit.

Summary

Currently, 94 interments have been identified and all four boundaries have been determined. A 50-foot (15-meter) buffer has been established along the West, North, and East cemetery boundaries and the old channel of Bullhead Bayou was found to determine the South boundary. After court order for removal of remains is secured, the burials will be excavated and taken to the on-site laboratory for analysis. Once analysis is complete and court order is obtained for reburial, the remains will be reinterred in a timely manner at a location to be determined. Once fieldwork is completed and data is compiled, a draft report of investigations will be submitted to the THC for review. It is understood that the typical timeframe for THC review is 30 days.

Please call me on my cell (512-419-8424) or contact me by email (rclark@goshawkenv.com) for any discussion, clarification, or further requests for information regarding the Scope of Work for this portion of the project.

Reign Clark

Reign Clark
Cultural Resources Director
Goshawk Environmental Consulting, Inc.

Radiographs, Parasitology, Chemical Analysis, and Genetic Testing

Below is a list of testing proposed by Dr. Catrina Whitley using sediment from the gut, teeth, bone (if necessary) and radiographs (x-rays) of individuals with unique bone changes or those with changes needing clarification of the condition.

1. **Radiographs**

   It is standard practice in the field of bioarchaeology to take radiographs of skeletal elements with potential of pathological changes or lesions needing additional investigation to identify the condition. Radiographs (x-rays) of human skeletal remains are extremely useful in investigating health and disease. Bouts of disease or sickness can leave Harris lines (dense radio-opaque lines) on the long bones only visible with x-rays. Additionally, diagnosis of cancers, tumors, and certain diseases can be enhanced through radiographs. Some cancers may not be visible on external inspection, but very apparent diagnostically on a radiograph.

   No Sugar Land/Houston area facility has been identified to take the radiographs. We are hopeful the local medical facility/hospital, medical schools in Houston, or a university would allow us to use their radiograph equipment.

2. **Parasitology**

   There are several accounts of living conditions from the area at the time of the cemetery's use. Understanding the health of the individuals who perished here will allow us to evaluate living conditions. Parasitic loads can affect susceptibility to disease due to a stressed immune system and death rates. Sediment from the gut area will be collected to test for parasites, including whipworm, hookworm, and pinworms.

   Cholera and typhoid both occur in poor sanitary conditions due to water sources and soils contaminated with human feces. Whipworm, hookworm, and pinworms are also spread through unsanitary living conditions related to contamination of water or soil with human feces. Saha, et al (2008) determined that worm infestations are associated with cholera. It may be possible to infer whether cholera or typhoid affected the population's health if it is determined that several individuals were buried at the same time.

   Preliminary testing, with a few samples, will evaluate if parasites are present before numerous samples are run. There is potential for testing to identify diarrheal diseases caused by *Giardia lamblia* and *Entamoeba histolytica*. Amanda Rollins, the parasitologist with Indiana University, will conduct the analysis.

3. **Chemical Analysis**

   Chemical analysis of the remains can confirm the foods eaten by the individuals. Although there are probable lists of foods provided to the individuals, it is unknown if all individuals were provided similar rations or if they had regular access to meat. Chemical analysis of carbon and nitrogen will help determine their meat consumption,

including the ratio of red meat to fish, and the reliance on C3 or C4 plants (ie. maize vs wheat).

Strontium isotope analysis is important because it can reveal where individuals were born and raised. Although we know these individuals probably came to the site from all over Texas, we do not know the ratios of locals to non-locals or if they were raised in another state. At the end of the civil war, slave holders moved to Texas in large numbers and brought their slaves in hopes of keeping their way of life. When combined with mtDNA analysis (discussed below), we can track their ethnic background, pinpointing where Anglo, Black, Native American, and Hispanic individuals' ancestors originated.

Additionally, strontium isotope analysis will give us insight to the death rate of locals vs. non-locals at the site. Ecological conditions and the type of work performed are different than in other areas of Texas and the continued heavy agricultural work load on a sugar plantation is different than farming cotton. Other questions that may be answered include: 1) do non-locals suffer from greater amounts of pathogens/parasites, 2) do non-locals die at earlier ages or at higher rates, or 3) do non-locals receive different treatment? If there are juveniles/teenagers present, how does this alter the conclusions of questions already posed?

Strontium and chemical analysis is a destructive process. Attached are two articles discussing the process and methods for using tooth enamel to test strontium and an example research article utilizing strontium from tooth enamel to track mobility of people across the landscape (Gregoricka 2012, Montgomery 2010).

4. Genetic Testing

Mitochondrial DNA **(**mtDNA) testing should be a first step in investigating individual DNA profiles which can give insight into the relationship between individuals. Are related individuals buried at this site? Are related individuals buried next to one another, or are these individuals buried randomly?

mtDNA will also allow us to determine ethnicity of individuals without skeletal features used to estimate ethnicity. For example, if remains are broken, or particularly if skulls are damaged, then mtDNA can give the ethnic profile of the individual. Dr. K. Ann Horsburgh, aDNA specialist from Southern Methodist University (SMU), can provide additional information and answer questions the School District may have regarding the mtDNA research.

aDNA analysis from teeth is a destructive process. aDNA (ancient DNA analysis), which includes mtDNA analysis and whole genome analysis, preferably uses the dentin from molars, however bone can also be utilized. There are two articles attached that describe the methods in greater detail (Dabney, et. al. 2013, and Rohland and Hofreiter 2007). Below is an excerpt from Rohland and Hofreiter (2007) on the methods.

PROCEDURE

Preparation of the bone or tooth sample ● TIMING 15–30 min per sample

1| Remove dirt from the surface of the specimen with a tissue. If necessary, moisten the tissue with HPLC-grade water.
▲ CRITICAL STEP Dirt may introduce a variety of inhibitory substances to the extraction procedure, and therefore to the extract itself; these substances may interfere or even completely block subsequent enzymatic manipulations of the DNA extracts.

2| Remove the outer surface of part of the specimen with a single-use grinding tool.
▲ CRITICAL STEP This step removes possible contamination introduced during excavation, storage or collection, or other investigations of the specimen; although no 100% efficient procedure to remove contamination exists[34], this step may improve the ratio between endogenous and contaminating DNA; moreover, it may further reduce the amount of inhibitors introduced into the extraction.

3| Cut off or cut out a piece of the specimen (you may have to reconcile with curatory requirements to minimize physical damage); if possible, sample from a compact part of the bone. When using teeth, cut off the root or use a part of the dentine, for example from inside the root, depending on curatory requirements. Most curators may not allow a piece to be cut from the (often unique) specimen. An alternative is to drill inside the specimen to obtain a fine powder without the need of further grinding. Drill with low speed to prevent overheating, which would damage the DNA.
! CAUTION Be careful with sharp cutting discs.
▲ CRITICAL STEP It is assumed that DNA is better preserved in compact parts of the bone than in more spongiose parts; therefore, we recommend using compact parts of bones, for example, the diaphyses of long bones. Use dentine rather than enamel from teeth, as dentine is assumed to contain more DNA.
■ PAUSE POINT The sample can be stored at room temperature (e.g., together with the original specimen).

4| Grind the sample intended for DNA extraction with a mortar and pestle until a fine-grained powder is obtained. If necessary (e.g., if the sample is very hard), use a freezer mill.
▲ CRITICAL STEP Try to obtain as fine a powder as possible; the finer the powder, the more DNA released[12]. However, if using a freezer mill or similar equipment, do not overgrind, as this may fragment the DNA.

5| Weigh out no more than 500 mg of sample powder and transfer it to a 15 ml tube.
■ PAUSE POINT The sample powder can be stored at room temperature, but should be subjected to the extraction as soon as possible.

Ultimately, Dr. Whitley requests that Southern Methodist University be allowed to retain a molar and incisor from each interment for further genetic studies. Graduate students, under Dr. Horsburgh's guidance, can continue to study whole genome sequencing to answer questions on paternal relationships, genetic markers, etc. They would apply for grants from the National Science Foundation and/or other national agencies to undertake this research.

Reference:

Dabney, J., Knapp, M., Glocke, I., Gansauge, M., Weihmann, A., Nickel,B., Valddiosera, C, Garcia, N.m Paabo, S., Arsuaga, J., Meyer, M. 2013. Complete mitochondrial genome sequence of a Middle Pleistocene cave bear reconstructed from ultrashort DNA fragments. *Proceedings of the National Academy of Sciences*, 110(39), 15758-15763.

Montgomery, J. 2010. Passports from the past: Investigating human dispersals using strontium isotope analysis of tooth enamel. *Annals of Human Biology*, 37(3), 325-346.

Rohland, N., Hofreiter, M. 2007. Ancient DNA extraction from bones and teeth. *Nature Protocols*, 2(7), 1756-62.

Saha, D. R., Rajendran, K., Ramamurthy, T., Nandy, R. K., and Bhattacharya, S. K. 2008. Intestinal parasitism and *Vibrio cholerae* infection among diarrheal patients in Kolkata, India. *Epidemiology and Infection*, *136*(5), 661–664. http://doi.org/10.1017/S0950268807008886

*Further studies can include, but are not limited to, using dental calculus to check for diet through the presence of food particles. Dental calculus can also indicate whether the individual suffered from gastrointestinal issues, such as ulcers or other stomach conditions; lung infections, such as pneumonia or tuberculosis; and potentially *Staphylococcus* infections. These are all important to identify the living conditions of the individuals.

APPENDIX C

MACROBOTANICAL ANALYSIS OF COFFIN WOOD

By Leslie L. Bush, Ph.D., R.P.A.

COFFIN WOOD
FROM THE SUGAR LAND
CONVICT LABOR CEMETERY
(41FB355)

August 30, 2018
Revised and expanded
September 19, 2018

Prepared for:
Reign Clark, C.R.D.
Goshawk Environmental Consulting, Inc.
PO Box 151525
Austin, Texas 78715

Prepared by:
Leslie L. Bush, Ph.D., R.P.A.
Macrobotanical Analysis
12308 Twin Creeks Rd., B-104
Manchaca, Texas 78652

Site 41FB355 is a historic period (late 19th- to early 20th century) cemetery located on property of the Fort Bend School District. Identification was requested for samples of wood associated with nine burials. A smoking pipe associated with a tenth burial was also examined. Additional identification was requested for two wooden posts to the east of the cemetery area.

METHODS

Identifications took place at the cemetery site in a laboratory trailer with a dissection microscope for initial examination of wood anatomy in transverse section at 14X-90X and a trinocular microscope for examination of radial and tangential sections at higher magnification (100X and 400X). A comparative collection of likely woods and reference materials were brought from the Macobotanical Analysis offices in Manchaca.

Identification was attempted for one specimen from each bag, box, or other container of wood associated with each of the burials. Wood fragments that had been drying since disinterment were snapped perpendicular to the grain to obtain clean transverse sections for identification. Materials that had been kept in sealed plastic bags since disinterment were cut with a razor blade to obtain clean sections. Wood specimens were identified to the lowest possible taxonomic level by comparison to materials in the Macrobotanical Analysis comparative collection and through the use of standard reference works (Hoadley 1990; Panshin and de Zeeuw 1980).

Aspects of wood anatomy were deteriorated in the cemetery specimens, but identification to a subgroup within the genus was possible for all specimens.

RESULTS

As shown in Table B.1, all coffin wood examined belongs to the Southern Yellow Pine timber group. The two post specimens examained were also Southern Yellow Pine. The wood is characterized by tracheids, large resin canals, abrupt transition from earlywood to latewood, and conspicuous, dense latewood (Figure 1). Taxonomically, the woods belong to the *Australes* subsection of the *Trifoliae* section of the *Pinus* subgenus of the pine genus (*Pinus*). According to Bruce Hoadley (1990), there are eleven species in the Southern Yellow Pine (SYP) timber group. The four species that account for most of the timber sold as Southern Yellow Pine are also the four common pines of eastern Texas (Turner et al. 2003). They are:

Shortleaf pine (*Pinus echinata*)
Slash pine (*P. elliottii*)
Longleaf pine (*P. palustris*)
Loblolly pine (*P. taeda*)

The species in the Southern Yellow Pine group cannot generally be distinguished on the basis of wood anatomy. Longleaf pine is said to have wider pith than the others (Panshin and de Zeeuw 1980), but no pith was noted in these specimens.

Fort Bend County is just south of the modern Pineywoods ecoregion that begins in northern Harris County (Diggs et al. 2006:4). Shortleaf pine, the most common Texas pine species in pre-settlement times, is recorded for Harris but not Fort Bend County, with the nearest longleaf pine located in Walker or Hardin Counties (USDA, NRCS 2018). Native or naturalized populations of loblolly are not currently recorded for Fort Bend County, but they do occur to the west and southwest of Fort Bend County, for example in the Lost Pines of the Bastrop area (USDA, NRCS 2018).

Preservation

The earlywood of Southern Yellow Pines, cells produced early in the growth season, are less resistant to decay than latewood, smaller, thick-walled cells produced late in the growth season. Differential decay of earlywood can be seen through the microscope in Figure 2, where sediment has replaced earlywood in a growth ring, and in Figure 3, where decaying earlywood appears as groves in longitudinal section while the more resistant latewood appears as ridges. At higher magnification, only cell walls were clearly visible, with little hint of interior features such as pits. Dentate ray tracheids, a feature of the cell walls of some ray tissues, provide a rare example of visible minute anatomy in the samples (Figure 4).

One notable feature of all coffin wood specimens examined is the narrow width of the growth rings. At least one of the two posts appeared to have similarly narrow growth rings, but post rings were not measured. To quantify the subjective impression of narrow growth rings, the latewood portion of rings from at least one specimen from each burial were measured and a mean calculated (Table 1). As noted above, earlywood portions of rings are frequently decayed in these samples, leaving a layer of sediment or only latewood portions of the ring. Mean latewood width ranged from 0.41 to 0.91 mm. In contrast, latewood widths of the specimen of Southern Yellow Pine in the Macrobotanical Analysis comparative collection range from 2.0 to 2.5 mm, or between two and six times the width of the cemetery specimens. This comparative specimen dates to the late 20th century and was likely grown under tree farm conditions of widely spaced trees with little competition for light and other resources.

Water and steam powered mills for lumbering were present in the Pineywoods of East Texas by the 1820s, but large scale mills did not appear until late in the 19th century (Diggs et al. 2006:84). The period 1880 to 1930 is considered the “Bonanza Era” for East Texas lumbering (Diggs et al. 2006:84). The first large scale attempt at reforestation happened relatively late in this period, around 1925 (Diggs et al. 2006:86), meaning that nearly all trees cut during the Bonanza years were old growth. The narrow growth rings seen in the cemetery specimens are consistent with old growth timber logged during this period or earlier. No associations between cemetery areas and latewood width were noted, but the empty coffin (Burial 19) does have the largest mean latewood width measured.

Properties of Southern Yellow Pines

Southern yellow pines have a straight grain and medium texture (Alden 1997). At 12% moisture, their specific gravity ranges from 0.51-0.61 (Hoadley 1990; Alden 1997). They are heavy, strong and stiff with high to moderately high shock resistance (Alden 1997 softwoods). Southern Yellow Pines are difficult to work using hand tools and are difficult to glue, but they hold nails well. They are rated low to moderately resistant to decay (Alden 1997; Hoadley 1990).

Smoking Pipe

The bowl of a ceramic smoking pipe associated with Burial 42 was examined for macrobotanical remains. The pipe contents were removed with a bamboo pick and examined under a dissection microscope. A thin layer of soil next to the pipe was left intact to help preserve any residues. Soil removed was placed in a plastic bag and re-bagged with the pipe. Very dark brown to black macroremains that appeared to be botanical in origin could not be identified. Remains were flat and layered but lacked the orthogonal cell patterns formed in wood tissue where rays cross longitudinal cells. They are consistent with stacked or twisted leaf fragments that are found in smoking mixtures.

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Table 1: Coffin Wood Identification and Latewood Widths for Nine Burials from 41FB355

Burial #	Timber Group	Botanical Name	# specimens examined	Mean latewood width (mm)	# rings examined
8	Southern Yellow Pine	*Pinus* subg. *Pinus*	3	0.41	8
19	Southern Yellow Pine	*Pinus* subg. *Pinus*	3	0.91	7
29	Southern Yellow Pine	*Pinus* subg. *Pinus*	2	0.75	3
32	Southern Yellow Pine	*Pinus* subg. *Pinus*	1	0.68	7
54	Southern Yellow Pine	*Pinus* subg. *Pinus*	1	0.85	3
60/24	Southern Yellow Pine	*Pinus* subg. *Pinus*	3	0.49	8
62	Southern Yellow Pine	*Pinus* subg. *Pinus*	1	0.44	3
63	Southern Yellow Pine	*Pinus* subg. *Pinus*	1	0.44	5
79	Southern Yellow Pine	*Pinus* subg. *Pinus*	1	0.82	5

Figure 1: Specimen from Burial 62 showing tracheids and large resin canals

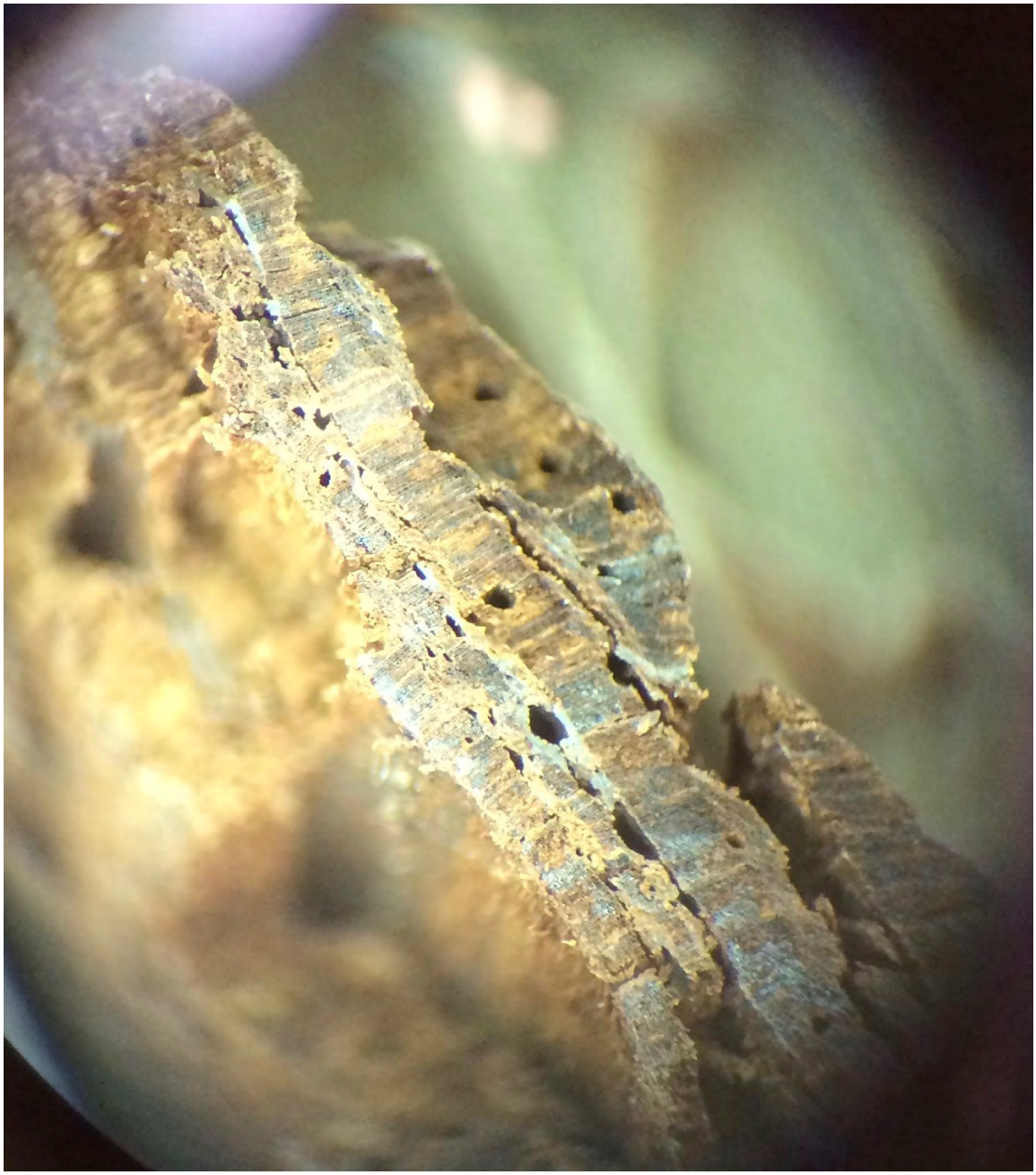


Figure 2: Specimen from Burial 19 showing decayed earlywood replaced by sediment

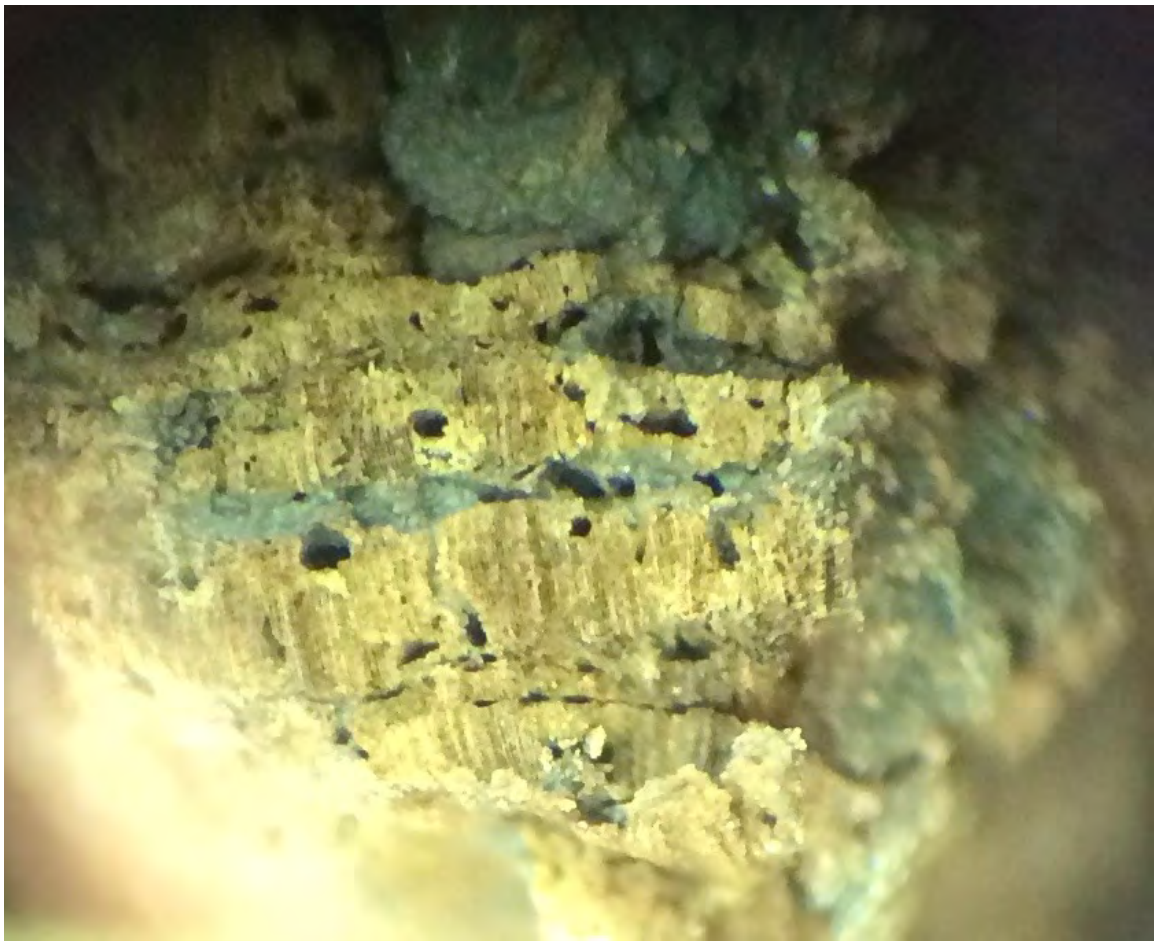
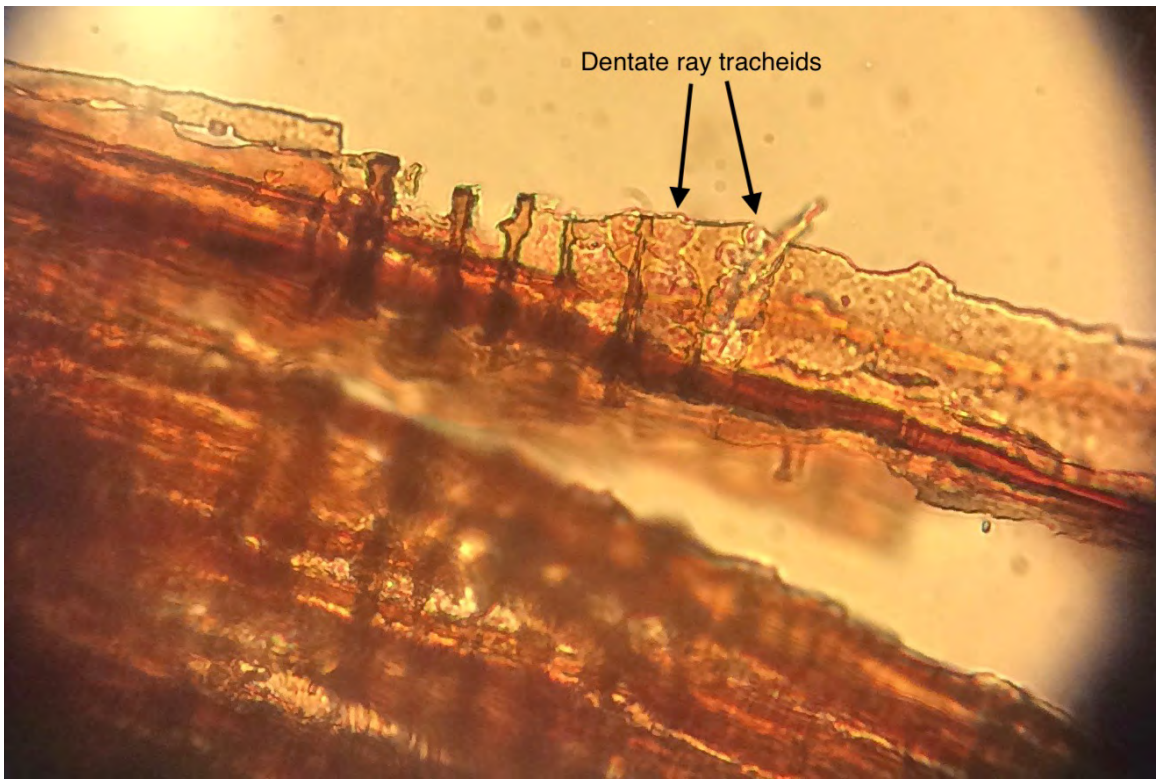


Figure 3: Specimen from Burial 32 showing earlywood grooves between better preserved latewood ridges.

Figure 4: Specimen from Burial 8 showing dentate ray tracheids



APPENDIX D

INDIVIDUAL BURIAL DESCRIPTION

BURIAL 1

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Indeterminate
Grave Orientation: N/A
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: Adult
Sex: Male
Ancestry: Indeterminate
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth - 10
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 2
tota number of caries - 1
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 2

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Indeterminate
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 25-29
Sex: Male
Ancestry: Indeterminate
Stature Estimate: 173.40 cm (5'8")

Paleopathology
Dental:
total number of teeth - 0
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 3

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Indeterminate
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 16
Sex: Male
Ancestry: Black
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth - 0
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 4

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 40-60
Sex: Male
Ancestry: Black
Stature Estimate: 177.25 cm (5'10")

Paleopathology
Dental:
total number of teeth - 14
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 2
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: fusion of the lunate and triquetral
Traumatic Injury: greenstick fracture distal phalange left foot
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 5

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 30-39
Sex: Male
Ancestry: Black
Stature Estimate: 169.50 cm (5'7")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 1
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: Fracture with proliferative lesions with no cloaca posterior 1/3 right femur.Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 6

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 20-30
Sex: Male
Ancestry: Black
Stature Estimate: 166.28 cm (5'5.5")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 15
tota number of caries - 7
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis, osteomyelitis
Developmental Defect: spina bifida occulta
Traumatic Injury: schmorl's nodes
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 7

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 14
Sex: Male
Ancestry: Black
Stature Estimate: 173.30 cm (5'8")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 8

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 35-45
Sex: Male
Ancestry: Black
Stature Estimate: 178.30 cm (5'10")

Paleopathology
Dental:
total number of teeth - 25
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 1
total number of abscesses - 2
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: fusion of the lunate and triquetral
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 9

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 35-40
Sex: Male
Ancestry: Black
Stature Estimate: 174.62 cm (5'9")

Paleopathology
Dental:
total number of teeth - 28
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 20
tota number of caries - 12
total number of abscesses - 3
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: fusion of the lunate and triquetral, spina bifida occulta
Traumatic Injury: Healed fracture right 1st proximal phalange
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 10

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Indeterminate
Grave Orientation: Northeast
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 35-45
Sex: Male
Ancestry: Black
Stature Estimate: 172.25 cm (5'8")

Paleopathology
Dental:
total number of teeth - 18
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 24
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis, healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 11

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Indeterminate
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 22-27
Sex: Male
Ancestry: Black
Stature Estimate: 183.99 cm (6'0")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 11
tota number of caries - 5
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 12

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Wide
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 25-30
Sex: Male
Ancestry: Black
Stature Estimate: 173.44 cm (5'8")

Paleopathology
Dental:
total number of teeth - 28
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 2
tota number of caries - 3
total number of abscesses - 6
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: fusion of the lunate and triquetral
Traumatic Injury: compression fractures, appendicular trauma, extremeties trauma, healed fracture of both clavicles
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 13

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 20-22
Sex: Male
Ancestry: Black
Stature Estimate: 169.33 cm (5'7")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 8
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: active porotic hyperostosis
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 15

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 19-23
Sex: Male
Ancestry: Indeterminate
Stature Estimate: 170.36 cm (5'7")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 2
tota number of caries - 2
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: No
Traumatic Injury: compression fractures, schmorl's nodes, extremeties trauma Right 4th metacarpal fracture of proximal 1/2 of the shaft. Proliferative bone and periosteal reactions with cloaca.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 16

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Indeterminate
Grave Orientation: N/A
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 25-30
Sex: Male
Ancestry: Black
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth - 0
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: fusion of the lunate and triquetral
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 18

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 30-35
Sex: Indeterminate
Ancestry: Indeterminate
Stature Estimate: 174.68 cm (5'9")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 10
tota number of caries - 3
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis, healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: schmorl's nodes, the 6th lumbar and thoracic vertebrae 7, 8, 9, and 10 have compression fractures.
Gunshot Trauma: healed gunshot wound to the right clavicle with fragments of shot still embeded in the bone. An incomplete basicervical healed fracture of the neck of the left femur is present along with a healed fracture of the left ala of the sacrum.
Amputee: No

Personal Items: No

BURIAL 19

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Indeterminate
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate:
Sex: N/A
Ancestry: N/A
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth -
total number of antemortem teeth lost -
total nmber of hypoplasia -
tota number of caries -
total number of abscesses -
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 20

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Indeterminate
Grave Orientation: N/A
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 16-18
Sex: Male
Ancestry: Black
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth - 0
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 21

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 20+
Sex: Male
Ancestry: Black
Stature Estimate: 179.94 cm (5'11")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 2
total number of abscesses - 2
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: schmorl's nodes
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 22

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 35-45
Sex: Male
Ancestry: Black
Stature Estimate: 185.83 cm (6'1")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 13
tota number of caries - 5
total number of abscesses - 2
dental calculus - present and collected
Metabolic disease/Infectious: button osteoma
Developmental Defect: No
Traumatic Injury: Extremeties trauma, Healed fracture of the 1st, 2nd, and 5th metacarpal and the 1st proximal articular facet on the almar side, a Bennet's fracture. The fractuer of the 2nd metacarpal is is a two-part base fracture.
Gunshot Trauma: Yes
Amputee: No

Personal Items: No

BURIAL 23

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 16-18
Sex: Male
Ancestry: Black
Stature Estimate: 176.46 cm (5'9")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 6
tota number of caries - 0
total number of abscesses - 1
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 24

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate:
Sex:
Ancestry:
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth -
total number of antemortem teeth lost -
total nmber of hypoplasia -
tota number of caries -
total number of abscesses -
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 25

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 16-18
Sex: Male
Ancestry: Black
Stature Estimate: 175.25 cm (5'9")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 19
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: schmorl's nodes
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 26

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 35-45
Sex: Male
Ancestry: Black
Stature Estimate: 169.16 cm (5'7")

Paleopathology
Dental:
total number of teeth - 24
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 4
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis, active cribra orbitalia,
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: Gunshot wound to the right mandible along the ramus and gonial angle with three cloaca. Fragments of the projectile are still in the bone. The right zygomatic was also broken by the gunshot. It is possible the bullet hit the zygomatic and fragmented before entering the mandible.
Amputee: No

Personal Items: No

BURIAL 27

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 40-50
Sex: Male
Ancestry: Black
Stature Estimate: 170.81 cm (5'7")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 8
total number of abscesses - 2
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis, active cribra orbitalia
Developmental Defect: No
Traumatic Injury: compression fractures, schmorl's nodes, healed fracture of the right clavicle. The right ulna has a greenstick fracture with callus and active proliferative bone. The first proximal phalanx distal shaft is fractured with active osteomyelitis and a cloaca. The right distal 1/3 of the fibula is fractured with active callous formation and woven bone. Cervicals 3, 4, and 5 hvae compression fractures.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 28

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 17-20
Sex: Male
Ancestry: Black
Stature Estimate: 173.75 cm (5'8")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 2
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: Healed fracture of the medial posterior tubercle of the right talus
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 29

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 30-39
Sex: Male
Ancestry: Black
Stature Estimate: 171.16 cm (5'7")

Paleopathology
Dental:
total number of teeth - 27
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: active porotic hyperostosis
Developmental Defect: No
Traumatic Injury: Healed fracture of the 1st proximal phalanx, three part base fracture.
Gunshot Trauma: Yes
Amputee: No

Personal Items: No

BURIAL 30

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 50-60
Sex: Male
Ancestry: Black
Stature Estimate: 169.44 cm (5'7")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 13
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: active porotic hyperostosis, healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 31

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 50-59
Sex: Male
Ancestry: Black
Stature Estimate: 168.00 cm (5'6")

Paleopathology
Dental:
total number of teeth - 17
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 2
tota number of caries - 1
total number of abscesses - 1
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: No
Traumatic Injury: compression fractures, schmorl's nodes, appendicular trauma, extremeties trauma
Gunshot Trauma: Projectile trauma of the right humerus on the anterior capitulum exhibiting a depression fracture similar to the fractures left by shotgun pellets. The 3rd left middle phalanx has projectile trauma with fragments of shot still embeded in the bone. Compression fractures are on the 7, 8, and 9 thoracic vertebrae.
Amputee: No

Personal Items: No

BURIAL 32

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 17-20
Sex: Male
Ancestry: Black
Stature Estimate: 166.63 cm (5'6")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 6
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: active porotic hyperostosis
Developmental Defect: No
Traumatic Injury: Compound fracture of the right forearm affecting both the radius and ulna. Force came from the side of the radius and continue trough the ulna midshaft.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 33

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Northeast
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 45-55
Sex: Male
Ancestry: Black
Stature Estimate: 168.58 cm (5'6")

Paleopathology
Dental:
total number of teeth - 27
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 1
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: active porotic hyperostosis
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 34

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Northeast
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 24-30
Sex: Male
Ancestry: Black
Stature Estimate: 176.97 cm (5'10")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 5
tota number of caries - 5
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 35

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Narrow
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 30-35
Sex: Male
Ancestry: Black
Stature Estimate: 170.53 cm (5'7")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: schmorl's nodes
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 36

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 21-29
Sex: Male
Ancestry: Black
Stature Estimate: 164.56 cm (5'5")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 14
tota number of caries - 1
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 37

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Narrow
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 40-55
Sex: Male
Ancestry: Black
Stature Estimate: 174.62 cm (5'9")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: compression fractures, schmorl's nodes, cranial trauma, Extremeties trauma Seven depression fractures of the left and right parietals. Healed sharp force trauma on the right parietal.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 38

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 50-59
Sex: Male
Ancestry: Black
Stature Estimate: 169.38 cm (5'7")

Paleopathology
Dental:
total number of teeth - 28
total number of antemortem teeth lost - 1
total nmber of hypoplasia - 0
tota number of caries - 3
total number of abscesses - 1
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: No
Traumatic Injury: compression fractures
Gunshot Trauma: Perimortem projectile trauma from shot gun. Bullet wounds are present on the anterior right humerus, right anterior ilium, right 2nd proximal phalange, and left posterior sacrum with shot gun pellets that refit in the wounds. There is possible proejctile trauma on the right 5th metatarsal, however the pellet was not present.
Amputee: No

Personal Items: No

BURIAL 39

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: Adult
Sex: Male
Ancestry: Black
Stature Estimate: 180.05 cm (5'11")

Paleopathology
Dental:
total number of teeth - 13
total number of antemortem teeth lost - 9
total nmber of hypoplasia - 0
tota number of caries - 9
total number of abscesses - 1
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: No
Traumatic Injury: Amputatation at midshaft of the tibia and fibula. Periosteal reactive bone was present on the tibia and fibula shafts superior of the amputation, saw marks on the cut end, and breakaway spur of on the fibula.
Gunshot Trauma: Gunshot trauma on the left proximal 2nd phalanx, with fragments of shot still embedded in the bone, and cloaca. Callous formation from fracture of teh right 6th rib. Healed fracture of the right ulnar styloid process with osteophyte growth.
Amputee: Yes

Personal Items: No

BURIAL 40

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 18-20
Sex: Male
Ancestry: Black
Stature Estimate: 180.19 cm (5'11")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: active porotic hyperostosis, active cribra orbitalia
Developmental Defect: No
Traumatic Injury: schmorl's nodes
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 41

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 30-40
Sex: Male
Ancestry: Black
Stature Estimate: 176.52 cm (5'9")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 9
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis, healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: Yes
Amputee: No

Personal Items: No

BURIAL 42

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Narrow
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 40-50
Sex: Male
Ancestry: Black
Stature Estimate: 175.15 cm (5'9")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 14
tota number of caries - 5
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis, button osteoma, otitis externa
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: Yes
Amputee: Yes

Personal Items: Tobacco Pipe

BURIAL 43

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 30-39
Sex: Male
Ancestry: Black
Stature Estimate: 167.77 cm (5'6")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 1
tota number of caries - 7
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis, healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: schmorl's nodes, appendicular trauma, axial trauma, extremeties trauma, Healed fracture of the posterior arch of the atlas.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 45

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Narrow
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 55+
Sex: Male
Ancestry: Black
Stature Estimate: 168.5 cm (5'6")

Paleopathology
Dental:
total number of teeth - 28
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 8
tota number of caries - 8
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: active porotic hyperostosis, active cribra orbitalia, button osteoma
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 46

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 30-40
Sex: Male
Ancestry: Black
Stature Estimate: 166.86 cm (5'6")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 37
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: active porotic hyperostosis, active cribra orbitalia
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 47

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 45-50
Sex: Male
Ancestry: Black
Stature Estimate: 167.55 cm (5'6")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 11
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: osteomyelitis
Developmental Defect: No
Traumatic Injury: Extremeties trauma
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 48

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Narrow
Grave Orientation: East
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 49-77
Sex: Male
Ancestry: Black
Stature Estimate: 176.11 cm (5'9")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 7
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: healed porotic hyperostosis, otitis media
Developmental Defect: No
Traumatic Injury: Noaxial trauma
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 49

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Indeterminate
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 50-60
Sex: Male
Ancestry: Black
Stature Estimate: 179.74 cm (5'11")

Paleopathology
Dental:
total number of teeth - 6
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: schmorl's nodes, healed blunt force trauma of the right 6, 7, and 8 ribs, possible whipping trauma. Compression fctures of the 2, 3, 4, and 5 lumbar vertebrae.
Gunshot Trauma: Healed gunshot trauma to the left scapular spine with bullet fragments still in the bone.
Amputee: No

Personal Items: No

BURIAL 50

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: East
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 35-50
Sex: Male
Ancestry: Black
Stature Estimate: 171.97 cm (5'8")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 3
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: healed porotic hyperostosis, active cribra orbitalia, button osteoma
Developmental Defect: No
Traumatic Injury: schmorl's nodes
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 51

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Narrow
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 60+
Sex: Male
Ancestry: Black
Stature Estimate: 171.69 cm (5'8")

Paleopathology
Dental:
total number of teeth - 21
total number of antemortem teeth lost - 9
total nmber of hypoplasia - 0
tota number of caries - 5
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: compression fractures, schmorl's nodes, fracture of the right 6th rib with active callous formation.
Gunshot Trauma: Perimortem gunshot wound to the medial epicondyle of the right humerus with pellet present and fitting into the wound.
Amputee: No

Personal Items: No

BURIAL 52

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 20-28
Sex: Male
Ancestry: Black
Stature Estimate: 164.21 cm (5'5")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: Yes
Amputee: No

Personal Items: No

BURIAL 53

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 60+
Sex: Male
Ancestry: Black
Stature Estimate: 180.08 cm (5'11")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 1
total nmber of hypoplasia - 5
tota number of caries - 7
total number of abscesses - 3
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis, healed cribra orbitalia, button osteoma, non-specific periostitis
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 54

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 17-20
Sex: Male
Ancestry: Black
Stature Estimate: 182.47 cm (6'0")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 4
tota number of caries - 1
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: Blunt force trauma on the right frontal bone.
Gunshot Trauma: Yes
Amputee: No

Personal Items: No

BURIAL 55

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 17-19
Sex: Male
Ancestry: Black
Stature Estimate: 175.25 cm (5'9")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 5
tota number of caries - 9
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: active porotic hyperostosis, active cribra orbitalia, otitis externa, healed fracture of the lateral edge of the calcanear articular facet of the righ talus. Greenstick fracture of the midshaft of the left 3rd metatarsal with partially callus formation and lamellar bone.
Developmental Defect: No
Traumatic Injury: Extremeties trauma
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 56

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 50-60
Sex: Male
Ancestry: Black
Stature Estimate: 171.75 cm (5'8")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 6
tota number of caries - 8
total number of abscesses - 1
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 57

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Secondarydelayed burial with decomposition of the body and disturbance of skeletal elements before the coffin was buried.

Biological Characteristics

Demographics
Age-at-Death Estimate: 17-20
Sex: Male
Ancestry: Black
Stature Estimate: 174.68 cm (5'9")

Paleopathology
Dental:
total number of teeth - 28
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 5
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: compression fractures
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 58

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 60+
Sex: Male
Ancestry: Black
Stature Estimate: 174.28 cm (5'9")

Paleopathology
Dental:
total number of teeth - 28
total number of antemortem teeth lost - 1
total nmber of hypoplasia - 4
tota number of caries - 12
total number of abscesses - 1
dental calculus - present and collected
Metabolic disease/Infectious: active porotic hyperostosis, active cribra orbitalia
Developmental Defect: No
Traumatic Injury: compression fractures, healed greenstick fracture of the medial right femur distal 1/3 of the shaft. Raised lamellar bone from the callous is still present.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 59

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Secondarydelayed burial with decomposition of the body and disturbance of skeletal elements before the coffin was buried.

Biological Characteristics

Demographics
Age-at-Death Estimate: 18-23
Sex: Male
Ancestry: Black
Stature Estimate: 171.69 cm (5'8")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 8
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 60

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Rectangular
Grave Orientation: Northeast
Type of Burial: Secondarydelayed burial with decomposition of the body and disturbance of skeletal elements before the coffin was buried.

Biological Characteristics

Demographics
Age-at-Death Estimate: 20-25
Sex: Male
Ancestry: Black
Stature Estimate: 174.22 cm (5'9")

Paleopathology
Dental:
total number of teeth - 28
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 9
tota number of caries - 4
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 61

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: East
Type of Burial: Secondarydelayed burial with decomposition of the body and disturbance of skeletal elements before the coffin was buried.

Biological Characteristics

Demographics
Age-at-Death Estimate: 20-25
Sex: Male
Ancestry: Black
Stature Estimate: 165.19 cm (5'5")

Paleopathology
Dental:
total number of teeth - 28
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 9
tota number of caries - 3
total number of abscesses - 1
dental calculus - present and collected
Metabolic disease/Infectious: healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: schmorl's nodes, several small blunt force trauma lesions to the skull.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 62

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 35-45
Sex: Male
Ancestry: Black
Stature Estimate: 172.61 cm (5'8")

Paleopathology
Dental:
total number of teeth - 27
total number of antemortem teeth lost - 3
total nmber of hypoplasia - 0
tota number of caries - 10
total number of abscesses - 1
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis, healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: schmorl's nodes
Gunshot Trauma: Healed fracture of the midshaft 1st proximal phalange. Active infection of the right ankle due to projectile trauma from a shot gun. The pellet is present and fits into the wound on the medial head of the talus.
Amputee: No

Personal Items: No

BURIAL 63

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Wide
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 21-27
Sex: PM
Ancestry: Black
Stature Estimate: 179.97 cm (5'11")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 19
tota number of caries - 4
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis, healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: Extremeties trauma
Gunshot Trauma: Perimortem projectile trauma from shot gun. The projectile wound is on the medial malleolus of the right talus with the shot gun pellet that refits in the wounds.
Amputee: No

Personal Items: No

BURIAL 64

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Secondarydelayed burial with decomposition of the body and disturbance of skeletal elements before the coffin was buried.

Biological Characteristics

Demographics
Age-at-Death Estimate: 20-25
Sex: Male
Ancestry: Black
Stature Estimate: 169.87 cm (5'7")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 4
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis, healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: Extremeties trauma
Gunshot Trauma: Healed gunshot wound of the proximal epiphysis of 3rd and 4th right metacarpals with fragments of shot still embeded in the bone.
Amputee: No

Personal Items: No

BURIAL 65

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Northeast
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 45+
Sex: Male
Ancestry: Black
Stature Estimate: 169.38 cm (5'7")

Paleopathology
Dental:
total number of teeth - 25
total number of antemortem teeth lost - 4
total nmber of hypoplasia - 0
tota number of caries - 5
total number of abscesses - 1
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: Healed fracture of the 1st medial left phalange distal end. The 3rd or 4th medial left phalange midshaft if fractured with incorrect union resulting in the bone bending medially. The 1st right metatarsal distal medial end has a healed fracture with separation of the segment.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 66

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 30-39
Sex: Male
Ancestry: Black
Stature Estimate: 170.28 cm (5'7")

Paleopathology
Dental:
total number of teeth - 26
total number of antemortem teeth lost - 3
total nmber of hypoplasia - 0
tota number of caries - 13
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: No
Traumatic Injury: compression fractures
Gunshot Trauma: Perimortem projectile trauma in the left hand with three shot gun pellets still present. One pellet fits in the wound on the 1st metacarpal, the second was found at the location of the triquetral, which was fragmented and not able to be recovered, and the third was found near the right arm.
Amputee: No

Personal Items: No

BURIAL 67

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: East
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 25-30
Sex: Male
Ancestry: Black
Stature Estimate: 175.33 cm (5'9")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 21
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: active porotic hyperostosis, healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: compression fractures, schmorl's nodes, Fracture of the distal 1/3 of the right fibula. Callus formation is present with a large area of woven bone. Fracture of the right tibial distal epiphysis. Woven bone indicative of infection is present.
Gunshot Trauma: Yes
Amputee: No

Personal Items: No

BURIAL 68

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 55-65
Sex: Male
Ancestry: Black
Stature Estimate: 168.61 cm (5'6")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 4
total number of abscesses - 1
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: schmorl's nodes
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 69

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: East
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 17-21
Sex: Male
Ancestry: Black
Stature Estimate: 174.22 cm (5'9")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 1
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: schmorl's nodes
Gunshot Trauma: Yes
Amputee: No

Personal Items: No

BURIAL 70

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 20-27
Sex: Male
Ancestry: Black
Stature Estimate: 166.72 cm (5'6")

Paleopathology
Dental:
total number of teeth - 26
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 3
tota number of caries - 14
total number of abscesses - 1
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: compression fractures
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 71

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 17-19
Sex: Male
Ancestry: Black
Stature Estimate: 182.33 cm (6'0")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 8
tota number of caries - 3
total number of abscesses - 1
dental calculus - present and collected
Metabolic disease/Infectious: healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: Healed fracture of the right and left distal 1/3 of the tibia. Consistent with sprial fracture when the feet are stable and the rest of the body twists.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 72

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 17-22
Sex: Male
Ancestry: Black
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 19
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: active porotic hyperostosis, active cribra orbitalia
Developmental Defect: No
Traumatic Injury: schmorl's nodes, Healed fracture of the right tibia epiphysis. It is called a juvenile fracture of Tillaux, although may be a triplane fracture but unable to determine due to post mortem breakage of the malleolus.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 73

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: East
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 40-50
Sex: PM
Ancestry: Indeterminate
Stature Estimate: 169.94 cm (5'7")

Paleopathology
Dental:
total number of teeth - 22
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 1
tota number of caries - 8
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: compression fractures, schmorl's nodes
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 74

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 35-39
Sex: Male
Ancestry: Black
Stature Estimate: 178.69 cm (5'10")

Paleopathology
Dental:
total number of teeth - 23
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 6
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: Healed sharp force traum wound to the medial side of the 2nd metacarpal shaft. There is a bridge growing over the lesion. The wound entry is estimated to originate from the posterior side of the hand and went into the bone, slicing and knicking the bone in the direction of the palm.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 75

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: N/A
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 45-60
Sex: IND
Ancestry: Indeterminate
Stature Estimate: 170.08 cm (5'7")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 3
tota number of caries - 1
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: No
Traumatic Injury: Healed fracture of the right temporal bone. The shape is semi-circular, although there are no cut marks or evidence of trephination. Plaque-like deposits are present surrounding the trauma in the nternal surface of the cranium.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 76

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Indeterminate
Grave Orientation: N/A
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 9- 15
Sex: Male
Ancestry: Indeterminate
Stature Estimate: 168.78 cm (5'6")

Paleopathology
Dental:
total number of teeth - 8
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 77

Mortuary Characteristics

Coffin Shape: n/A
Coffin Width: N/A
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: Adult
Sex: Male
Ancestry: Indeterminate
Stature Estimate: 185.00 cm (6'1")

Paleopathology
Dental:
total number of teeth - 0
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 78

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 17-20
Sex: Male
Ancestry: Black
Stature Estimate: 175.75 cm (5'9")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 4
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: No
Traumatic Injury: compression fractures
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 79

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Narrow
Grave Orientation: East
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 50-70
Sex: Male
Ancestry: Black
Stature Estimate: 173.87 cm (5'8.5")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: Healed fracture of the styloid process of the right ulna. The process had a complete fracture and the styloid process is missing.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 80

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Indeterminate
Grave Orientation: East
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: Adult
Sex: Female
Ancestry: Indeterminate
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth - 0
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 81

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 20-28
Sex: Male
Ancestry: Black
Stature Estimate: 171.91 cm (5'8")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 8
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: active porotic hyperostosis, active cribra orbitalia
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 82

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Indeterminate
Grave Orientation: East
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 35-45
Sex: Male
Ancestry: Black
Stature Estimate: 179.03 cm (5'10")

Paleopathology
Dental:
total number of teeth - 25
total number of antemortem teeth lost - 4
total nmber of hypoplasia - 0
tota number of caries - 6
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 83/87

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Wide
Grave Orientation: N/A
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 40-45
Sex: Male
Ancestry: Black
Stature Estimate: 170.5 cm (5'7")

Paleopathology
Dental:
total number of teeth - 28
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 14
tota number of caries - 4
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 84

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Indeterminate
Grave Orientation: East
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: Adult
Sex: Probable Female
Ancestry: Indeterminate
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth - 2
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 85

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 20-30
Sex: Male
Ancestry: Black
Stature Estimate: 166.63 cm (5'6")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 6
tota number of caries - 6
total number of abscesses - 4
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 86

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 35+
Sex: Male
Ancestry: Black
Stature Estimate: 170.77 cm (5'7")

Paleopathology
Dental:
total number of teeth - 29
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: healed porotic hyperostosis, active cribra orbitalia
Developmental Defect: No
Traumatic Injury: schmorl's nodes
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 88

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 45-55
Sex: Male
Ancestry: Black
Stature Estimate: 180.02 cm (5'11")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 4
tota number of caries - 9
total number of abscesses - 2
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 89

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Indeterminate
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 25+
Sex: Male
Ancestry: Black
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth - 5
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: Fractured 1st and 2nd right metacarpals midshaft fractures with callus formation.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 90

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Indeterminate
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: Adult
Sex: Indeterminate
Ancestry: Indeterminate
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth - 0
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 91

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 18-21
Sex: Male
Ancestry: AA
Stature Estimate: 173.06 cm (5’8”)

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 12
tota number of caries - 4
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: schmorl’s nodes
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 92

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Indeterminate
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 25-45
Sex: Male
Ancestry: Indeterminate
Stature Estimate: 167.25 cm (5'6")

Paleopathology
Dental:
total number of teeth - 0
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: Extremeties trauma
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 93

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: West
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 17-20
Sex: Male
Ancestry: Black
Stature Estimate: 167.13 cm (5'6")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 16
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 94

Mortuary Characteristics

Coffin Shape: Hexagonal
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 17-22
Sex: PM
Ancestry: Black
Stature Estimate: 172.37 cm (5'8")

Paleopathology
Dental:
total number of teeth - 28
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 6
tota number of caries - 1
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: active porotic hyperostosis
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 95

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 30-39
Sex: Male
Ancestry: Black
Stature Estimate: 173.80 cm (5'8")

Paleopathology
Dental:
total number of teeth - 30
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 14
tota number of caries - 1
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed porotic hyperostosis
Developmental Defect: No
Traumatic Injury: compression fractures, schmorl's nodes, healed fracture of the right 1st proximal phalanx base.
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 96

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Narrow
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 17-20
Sex: Male
Ancestry: Black
Stature Estimate: 168.61 cm (5'6")

Paleopathology
Dental:
total number of teeth - 23
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 5
total number of abscesses - 1
dental calculus - present and collected
Metabolic disease/Infectious: osteitis
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: Ring

BURIAL 97

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Wide
Grave Orientation: N/A
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 30-39
Sex: Male
Ancestry: Black
Stature Estimate: 170.71 cm (5'7")

Paleopathology
Dental:
total number of teeth - 4
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 5
tota number of caries - 1
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 98

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Indeterminate
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate:
Sex: Indeterminate
Ancestry: Indeterminate
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth - 0
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 12
tota number of caries - 1
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 99

Mortuary Characteristics

Coffin Shape: Rectangular
Coffin Width: Indeterminate
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 30+
Sex: Male
Ancestry: Black
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth - 5
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 11
tota number of caries - 2
total number of abscesses - 0
dental calculus - present and collected
Metabolic disease/Infectious: healed cribra orbitalia
Developmental Defect: No
Traumatic Injury: schmorl's nodes
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 100

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Indeterminate
Grave Orientation: Southwest
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 20-27
Sex: Male
Ancestry: Indeterminate
Stature Estimate: N/A

Paleopathology
Dental:
total number of teeth - 4
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: schmorl's nodes
Gunshot Trauma: No
Amputee: No

Personal Items: No

BURIAL 101

Mortuary Characteristics

Coffin Shape: Indeterminate
Coffin Width: Indeterminate
Grave Orientation: N/A
Type of Burial: Primary

Biological Characteristics

Demographics
Age-at-Death Estimate: 30-45
Sex: Male
Ancestry: Black
Stature Estimate: 168.93 cm (5'6")

Paleopathology
Dental:
total number of teeth - 0
total number of antemortem teeth lost - 0
total nmber of hypoplasia - 0
tota number of caries - 0
total number of abscesses - 0
dental calculus - No
Metabolic disease/Infectious: No
Developmental Defect: No
Traumatic Injury: No
Gunshot Trauma: No
Amputee: No

Personal Items: No

APPENDIX E

ADDITIONAL PHOTOGRAPHY

41FB355-1 Surface scraping

41FB355-2 Brick stack, mortared

41FB355-3 Bricks, glass, and ceramics

41FB355-4 Beginning of trench excavations

41FB355-5 Profiles during trench monitoring

41FB355-6 Profiles during trench monitoring

41FB355-7 Profiles during trench monitoring

41FB355-8 One of 20 single-set test pits dug across the JRCTC Campus

41FB355-9 Unit excavation at Burial 1

41FB355-10 Unit Excavation at Burial 1

41FB355-11 Select fill over native red sandy loam over native black clay

41FB355-12 Burial 1 partially backfilled and covered

41FB355-13 Discovery of grave shafts by scraping overburden

41FB355-14 Discovery of grave shafts by scraping overburden

41FB355-15 Discovery of grave shafts by scraping overburden

41FB355-16 Feature 16 discovered

41FB355-17 Discovery of grave shafts by scraping overburden

41FB355-18 Aerial view of investigations across Bullhead Bayou

41FB355-19 Trench profile investigations across Bullhead Bayou

41FB355-20 One of 3 fence posts identified at cemetery boundaries

41FB355-21 Tie plate from moveable sugarcane tram track

41FB355-22 Tie plate spikes, moveable sugarcane tram track

41FB355-23 Handle-less coffee mug or small bowl

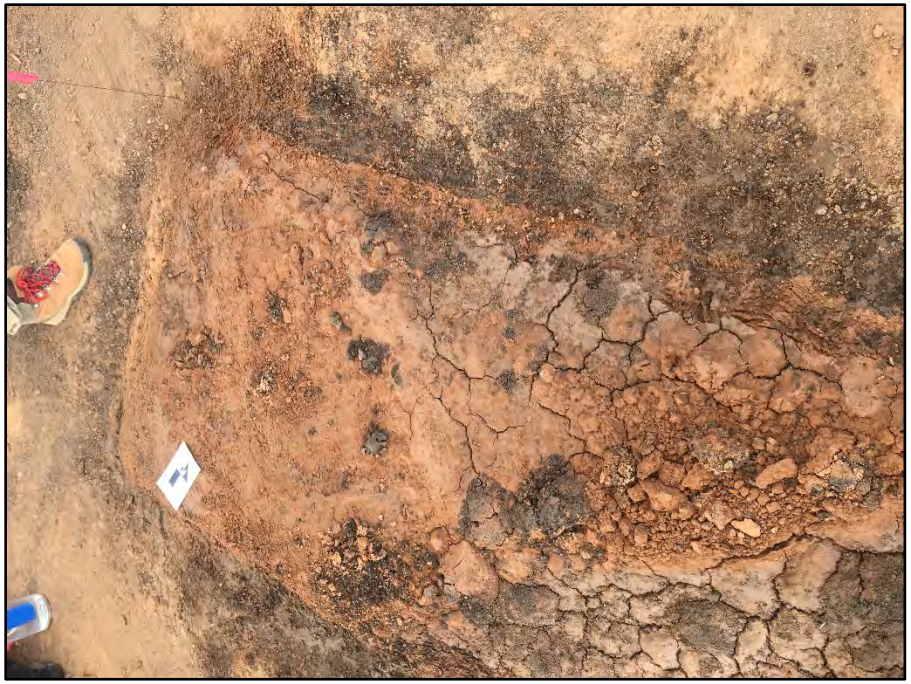
41FB355-24 “Aggie” hoe head

41FB355-25 Heavy chain and ring

41FB355-26 Iron stake, mushroomed end

41FB355-27 Light chain with swivel

41FB355-28 Hand-made left-handed die, hardwood



41FB355-29 Grave shaft infill and surrounding clays, high contrast

41FB355-30 A rare rain delay

41FB355-31 Trench profile investigations across Bullhead Bayou

41FB355-32 Exhumation crews worked in teams of two or three

41FB355-33 Clay pipe, Burial 42

41FB355-34 Prehistoric ceramic from grave fill, Burial 11

41FB355-35 Ceramic buttons

41FB355-36 Lathe-turned Bone Buttons

41FB355-37 Brass trouser buttons, Burial 21

41FB355-38 Copper or brass ring, Burial 96

41FB355-39 Buckshot pellets, Burial 66

41FB355-40 Typical coffin hardware, square cut nails, Burial 51