

Archaeological Monitoring of Emergency Repair of a Sewer Line at Brackenridge Park, San Antonio, Bexar County

by
Jonathan Paige and Sarah Wigley



Texas Antiquities Permit No. 31147

REDACTED

Principal Investigator
Cynthia Munoz

Prepared for:
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Technical Report, No. 104

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Abstract:

On April 11, 2022, The University of Texas at San Antonio (UTSA), Center for Archaeological Research (CAR) was contacted by the City of San Antonio Office of Historic Preservation (COSA-OHP) to request an archaeological monitor for emergency excavation and repair of a sewer line constructed directly on top of the Upper Labor Acequia (41BX2043) in Brackenridge Park in San Antonio, Bexar County, Texas. Brackenridge Park is owned by the COSA. Any work that might damage or displace archaeological or historical sites on public municipal property in San Antonio is subject to regulatory review at both the municipal and state level. At the municipal level, the property falls under the City of San Antonio's Unified Development Code (UDC) article 6, sections 35-630 through 35-634. At the state level, the project requires review by the Texas Historical Commission (THC) under the Antiquities Code of Texas. David Yelacic initially served as the Principal Investigator under Texas Antiquities Permit number 31147. Cynthia Munoz stepped in as Principal Investigator when Yelacic left the CAR. Sarah Wigley served as the Project Archaeologist. The excavation to expose the sewer line was performed by the San Antonio Parks and Recreation Department on April 11, and 12, 2022. CAR monitored all ground disturbance on the 0.08 ha (0.02 acres) project area. The excavated deposits were all disturbed by the initial installation of the sewer line. No cultural features or intact cultural deposits were documented. Based on these findings, CAR recommends no further work, though given the rich archaeological resources within Brackenridge Park, archaeological investigation should precede any ground disturbances within the park in the future. All records generated during this project were prepared for curation in accordance with THC guidelines, and are permanently curated at the CAR at University of Texas, San Antonio under accession number 2764.

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Chapter 1: Introduction

On April 11, 2022, the CAR was contacted by COSA-OHP for archaeological monitoring of the emergency excavation and repair of a sewer line in Brackenridge Park in San Antonio,

Bexar County, Texas. The project area encompasses 0.08 ha (0.02 acres, Figure 1-1). The park, located in central San Antonio, is listed on the National Register of Historic Places



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Figure 1-1. Project area at northern margin of Brackenridge Park, southeast of San Antonio Zoo.

(NRHP) and is designated as a State Antiquities Landmark (SAL) due to the rich archaeological and historical resources within the park boundary extending from the Early Holocene through the historic period (Pfeiffer and Tomka 2011; THC 2023). Brackenridge Park is owned by COSA. Any work that might damage or displace archaeological or historical sites on public municipal property in San Antonio is subject to regulatory review at both the municipal and state level. At the municipal level, the property falls under the COSA's UDC article 6, sections 35-630 through 35-634. At the state level, the project required review by the THC under the Antiquities Code of Texas.

The excavation of the sewer line was performed by the San Antonio Parks and Recreation Department. The project was conducted at short notice and on an emergency basis at the request of the COSA in consultation with the THC, and as such, the associated permit was awarded after the fact. This project is associated with Texas Antiquities Permit Number 31147, issued to David Yelacic, Director of CAR. After Yelacic left CAR, the permit was transferred to Cynthia Munoz, Interim Director. Sarah Wigley served as the Project Archaeologist. The main focus of the project was the potential impact of the sewer repair to the Upper Labor Acequia (41BX2043) and any potential associated features or cultural materials (Figure 1-2).



Figure 1-2. Southern margin of project area, facing east. Damaged sewer line laid directly across top of refurbished and fully exposed Upper Labor Acequia. The area excavated is to the left (north) side of this view.

Chapter 2: Background

This section briefly outlines the broader environmental context and prior archaeological work within 250 meters (m) of the project area. The project area falls within Brackenridge Park, a NRHP District and SAL located within the San Antonio River basin (Pfeiffer and Tomka 2011; THC 2023). The Upper Labor Acequia (41BX2043) is a contributing resource to the District (Pfeiffer and Tomka 2011). The San Antonio River Headwaters are located one kilometer (km) north of the project area, just south of the Blue Hole on the campus of the University of the Incarnate Word. Brackenridge Park is at the edge of the Balcones Escarpment, marking the division between the Tamaulipan biotic province, which falls below the Balcones Escarpment, and the semi-arid Balconian biotic province on top of the karstic Edwards Plateau (Blair 1950; Woodruff Jr. and Abbott 1979). The escarpment also divides the Great Plains to the northwest and Coastal Plain to the southeast.

Two soil types lie within the project area, Tinn and Frio (Tf) and Eckrant very cobbly clays (TaC). They include soils associated with terraces formed by regular flooding of gentle streams and shallow clays formed over limestone bedrock to the northwest. Tinn and Frio soils are located to the southeast, formed through the deposition of sediment by the San Antonio River. Tinn and Frio soils are frequently flooded, and have small slopes, 0-1%, associated with gentle meandering streams. They tend to be up to 1.5 m deep, with clay loam and gravelly clay in the upper part of the soil profile (USDA 1966). The northwestern part of the project area crosses into Eckrant series soils. These have sharper slopes (5 to 15%), and consist of shallow clays formed on limestone bedrock (Figure 2-1).

Culture History

The project area is located in the northernmost margin of Brackenridge Park. The area immediately surrounding the project area is rich with archaeological sites spanning the Paleoindian period through the historic period. A brief overview of the major archaeological phases in Central Texas, including associated major events, behavioral, and technological traits follows. This discussion is included in order to provide context for project results.

Paleoindian (13,000-9,000 BP)

The Paleoindian period bridges the end of the Pleistocene and Early Holocene, a period of time that saw the transition from a colder, drier Pleistocene climate to the relatively warm and wet Holocene. Along with those changes came a broad

restructuring of animal and plant communities, including the extinction of many species of terrestrial megafauna in the Americas. Paleoindian sites are associated with a distinctive suite of tools and core reduction methods. Paleoindian bifaces include lanceolate and fluted points (Clovis, Midland, and Folsom), fashioned through pressure flaking and soft hammer percussion, as well as prismatic blade technology involving the careful preparation of single platform blade cores (Collins and Kay 2002). By the Late Paleoindian period, between 11,000 and 9,000 before present (BP), there was a shift away from fluted points, like the Clovis and Folsom varieties, towards lanceolate points without flutes, like the St. Mary's Hall, Golodrina, and Angostura types. In addition, late Paleoindian sites have some of the first examples of heavy duty tools, including Clear Fork bifaces, that persist across the following Archaic period (Epstein 1976; Hall et al. 1982; Shafer and Tomka 2003).

Archaic (9000-1200 BP)

The Archaic is a broad culture-historical classification that accommodates post-Paleoindian archaeological sites spanning North, Central, and South America. The initiation of the Archaic is tied in large part to the development of new kinds of technologies, including stemmed projectile points. Heavy duty Clear fork tools are joined by Guadalupe tools in the Archaic. In Central Texas and elsewhere, the Archaic also saw the development of heated rock technology for food processing (Black et al. 1997; Weir 1976). Archaic sites are relatively abundant and dense with features compared to earlier sites. During the Middle to Late Archaic, persistent cemeteries used over the course of many generations begin to emerge (Bement 1994; Burgett 1998; Solis 2020; Taylor 1998).

Late Prehistoric (1200-350 BP)

The Late Prehistoric overlaps in time with multiple developments in Central Texas and the surrounding area. Groups began relying on bow and arrow technology (Miller 2009) and relied more heavily on bison hunting than in the Archaic periods (Lohse et al. 2014a; Lohse et al. 2014b; Mauldin et al. 2012). The first Europeans made contact with groups in Texas, after the Narvaez expedition wrecked off the coast of Texas in 1528 (Davenport and Wells 1918; Mecham 1926). The Late Prehistoric period is associated with new point types associated with bow and arrow technology, including Scallorn, Granbury, Edwards, Perdiz, and Clifton points, and the re-development of blade technology (Kenmotsu et al. 2012). In the Toyah phase, groups produced ceramics, which include undecorated bone tempered vessels. These may be finished with a buff or red slip.

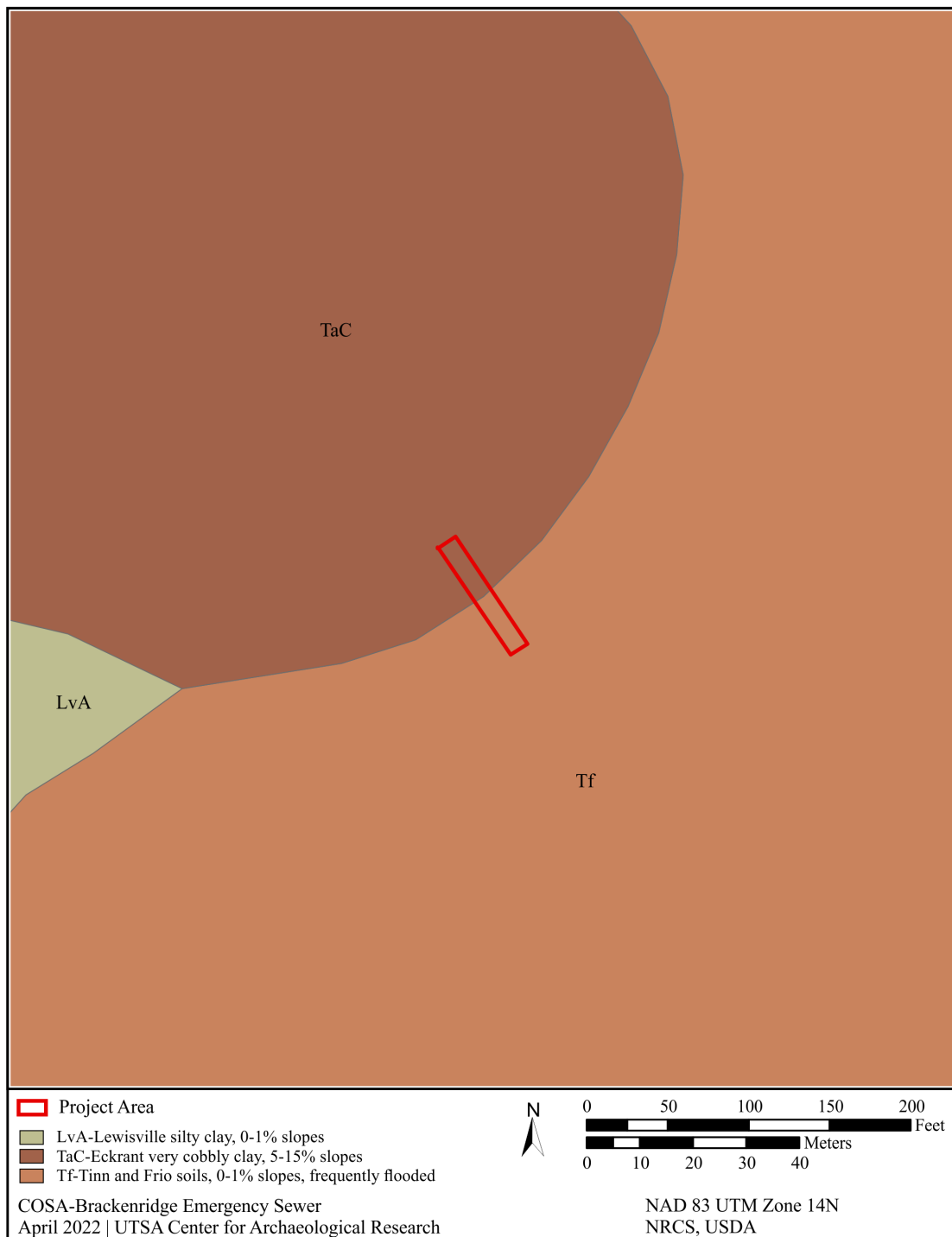


Figure 2-1. Soils within the project area.

Historic (Late 1600s-ca. 1950)

The historic period begins with the establishment the Mission system in Central Texas, some generations after the Narvaez expedition. Although early interactions between Europeans and Native people in the area were infrequent, the lifeways of the Indigenous populations were still significantly

impacted by the spread of disease brought to the continent by European settlement as well as the arrival of Native American groups from other regions of North America fleeing European incursions (Foster 1998; Kenmotsu et al. 2012). Furthermore, the Spanish re-introduced horses to North America after their closest relatives had gone extinct at the end of the Pleistocene. Horses were adopted by

Plains groups and resulted in rapid changes in technology, mobility, and social structure in the Plains. The Comanche, with a new society based around the horse, expanded into the Southern Plains, resulting in conflict with other indigenous groups and their displacement. The Comanche also established the Comancheria, a complex society whose leaders engaged in diplomacy and warfare with surrounding Spanish, Mexican, and American States from the mid-1700s through mid-1800s (Hämäläinen 2010).

In the sixteenth and seventeenth centuries, Spain laid claim to the area that would become Texas but made little attempt to establish settlements (Chipman and Joseph 2010). Motivated by concerns about the French colonization of Louisiana in the early 1700s and encroachment into Texas in 1685 by Robert Cavalier, Sieur de la Salle's expedition, the Spanish government endeavored to strengthen its hold on Texas, which previously was sparsely populated by Europeans (Cruz 1988). Missions established in East Texas in the early 1700s were intended to secure Spain's hold on the area. Additionally, a Spanish expedition intended to initiate contact with the Indigenous population and prevent them from establishing trade relationships with the French reached San Pedro Springs in present-day San Antonio on April 13, 1709 (Cruz 1988).

The primary institutions Spain used to secure its colonies were the missions, intended to assimilate the Indigenous population through religious conversion; the presidio, which played a military defensive role; and the establishment of chartered town settlements (Cox 1997; de la Teja 1995). The missions and the presidios were intended to be transitory institutions, whose land and possessions would ultimately be distributed among successfully converted Indigenous families (de la Teja 1995). The Spanish Colonial *acequia* system in San Antonio was established to serve as a source of water and irrigation for the inhabitants of these institutions. San Antonio is one of the few large cities of Spanish origin that still contains traces of its original *acequia* system, spanning more than 80 km (50 mi.; Cox 2005).

Mission San Antonio de Valero (41BX6), the first Spanish settlement established in what would become San Antonio, was founded on May 1, 1718, on the west bank of the San Antonio River south of San Pedro Springs (Habig 1968:38). The Presidio de Bexar and the Villa de Bexar were established four days later. Initially, these settlements were located near San Pedro Springs, possibly within modern-day San Pedro Park (Meissner 2000), although firm archaeological evidence of these early settlements is lacking. The mission was moved to the east bank of the San Antonio River about a year later and it was moved a third time to its final location following storm damage in 1724 (Habig 1968:44). The villa and presidio were relocated in

1722 (Habig 1968:38). Archaeological material associated with this second location of the presidio, including a Spanish Colonial sheet midden, have been documented at site 41BX2088 (McKenzie et al. 2016).

Four more missions, Mission San Jose (41BX3), Mission Concepcion (41BX12), Mission San Juan (41BX5), and Mission Espada (41BX4), were founded to the south along the San Antonio River between 1720 and 1731 (de la Teja 1995). Archaeological work at the missions over the years has documented construction history and lifeways of mission inhabitants. Summaries of work conducted in the San Antonio mission environs are provided by Scurlock and colleagues (1976), Ivey (2018), and Ivey and Fox (1999). Construction of the missions' *acequia* systems began early in their history due to their significance to the success of the settlements.

Although an early, unofficial town associated with the presidio began to develop with the arrival of presidio soldiers and their families, this settlement lacked legal status (de la Teja 1991). The arrival of a group of immigrants from the Canary Islands in 1731 marked the establishment of the Villa de San Fernando (de la Teja 1995; Poyo 1991). The villa was granted water rights to the San Pedro Creek (de la Teja 1995). The early years of the settlement were marked with conflict between the villa, the missions, and the earlier settlers, particularly over land and irrigation (de la Teja 1991, 1995; Poyo 1991). An *acequia* for the new settlement was in operation by 1735 (Cox 2005:35). The Upper Labor Acequia, completed in 1778, was intended to irrigate approximately 242.8 ha of land that had previously functioned as commons for grazing. These lands, located west of the river and north of the presidio, were known as the Labores de Arriba, or the Upper Farms (McKenzie and Smith 2017). They were opened to accommodate the growth of the town and those wishing to receive grants were required to contribute to the construction of the *acequia* (de la Teja 1995). Detailed histories of the Upper Labor Acequia are provided by Cox (2005) and McKenzie and Smith (2017).

Secularization of the missions began in 1793 (Cox 1997; de la Teja 1995; Ivey 2018). The Mission Valero compound subsequently served a primarily military function in the city, and it was, significantly, the site of the Battle of the Alamo in 1836. The other missions were not fully secularized until 1824, when their churches and furnishings were inventoried and surrendered (Habig 1968). The survey and redistribution of former mission farmlands associated with secularization contributed to the growth of the town (de la Teja 1995).

A failed uprising for independence from Spain in 1812 depleted San Antonio's population and negatively affected the city's development for decades (Cox 1997). Mexico gained independence from Spain in 1821 and Texas became

part of the state of Coahuila. Texas revolted against Mexico in 1835. Mexican General Martín Perfecto de Cos fortified the old Mission Valero against the Texans, including diverting a branch of the *acequia* to flow outside the mission compound (Cox 1997). The Texans defeated General Cos, but they were defeated themselves by Santa Anna after a 13-day siege in 1836 at what became known as the Battle of the Alamo (Cox 1997). A number of sites downtown include features associated with this military activity, including a trench associated with General Cos's occupation of Main Plaza at 41BX1752 (Hanson 2016) and a Mexican fortification trench associated with the Siege of Bexar at 41BX2170 (Kemp et al. 2020). In the fall of 1836, Santa Anna was ultimately defeated and Texas became a Republic (Cox 1997).

During the century that followed Texas's break with Mexico, San Antonio saw considerable growth despite the impact of numerous conflicts. In December of 1837, San Antonio was incorporated as one of the early acts of the newly established Republic of Texas. A number of epidemics impacted the city's population during the early to mid-1800s, spread in part by pollution of the city's *acequia* system. The city attempted to combat the issue by establishing standards of cleanliness, but the issue remained ongoing (Cox 2005). After a turbulent period in which Texas saw conflict with both Mexico, which did not accept the new Republic's independence, and local Native American groups, Texas became part of the United States in 1846. This sparked the Mexican War between the United States and Mexico. The conflict ultimately resulted in setting the Rio Grande as Texas's southern boundary, as well as the United States gaining significant territory on the western side of the continent, including California, Arizona, and New Mexico (Bauer 2023).

In the 1840s, a number of French and German immigrants began to settle in San Antonio and the surrounding area. By the 1850s, recent European settlers outnumbered the Mexican and Anglo populations in the city (Cox 1997). Texas seceded from the United States, joined the Confederacy in 1861, and primarily served a supply role during the Civil War (Wooster 2023). A tannery owned by the Confederate State which utilized the Upper Labor Acequia and was located within the property that became Brackenridge Park was associated with these supply efforts (McKenzie and Smith 2017). Five years later, Texas surrendered to the Union and rejoined the United States (Wooster 2023).

The arrival of the railroad in 1877 resulted in significant growth in San Antonio (Cox 1997). The late 1800s saw infrastructure and economic development throughout the city, including water, electric, and gas utilities (Heusinger 1951). The city attempted to update the *acequia* system with the construction of new ditches, including the construction of the Alazán ditch in 1875. Construction of this new ditch

necessitated modifications to the Upper Labor Acequia as well (McKenzie and Smith 2017). The adoption of the new water works system in 1878 transformed the *acequia* system into, primarily, a drainage system. The new water works was located on the property that became Brackenridge Park (McKenzie and Smith 2017). Water flow was reduced in the 1890s due to the increased drilling of wells. As a result of these infrastructural changes in the city, as well as ongoing cleanliness issues, the Upper Labor Acequia was closed in 1896 and all the urban *acequias* were closed by 1913 (Cox 2005). The San Juan and Espada *acequias* were the only ditches that remained in operation and were maintained by private ditch companies for farming (Cox 2005). Brackenridge Park was founded in 1899 when George W. Brackenridge, who owned the water works, donated 199 acres to COSA. Following this initial donation, the park continued to grow piecemeal (Pfeiffer and Tomka 2011). A detailed history of the park is provided by Pfeiffer and Tomka (2011).

Previous Archaeology

Brackenridge Park and the surrounding areas are rich in archaeological sites (Figueroa and Dowling 2007; Houk 2002; McKenzie and Smith 2017; THC 2023). For this project several archaeological sites within 250 m of the project area were identified in a search of the Texas Archaeological Sites Atlas (THC 2023), outlined below (Figure 2-2).

41BX2043/41BX1273

41BX2043, the Acequia de Labores Arriba, or Upper Labor Ditch is a Spanish Colonial irrigation canal which channels water diverted by the Spanish Colonial dam (41BX1273) westward eventually joining San Pedro creek. The construction is open, stone-lined, and about 2 m across. The *acequia* was constructed in 1776 and was used throughout the late eighteenth, nineteenth and early twentieth centuries. It is exposed for roughly 1.5 km through Brackenridge Park and into the San Antonio Zoo. The sewer line repaired over the course of this project was placed directly across the top of the *acequia* portion just southeast of the San Antonio Zoo, and west of 41BX1273 (McKenzie and Smith 2017). The Spanish Colonial dam (41BX1273) is a weir constructed out of hewn limestone and cedar posts, which diverts some of the river flow into the Upper Labor Acequia. Both the Upper Labor Acequia and its associated dam were reconstructed post-1860 (McKenzie and Smith 2017).

In 1987, a small, unlined section of the Upper Labor Acequia was recorded in a construction trench near the intersection of E. Myrtle Street and N. St. Mary's Street by the CAR. It was



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Figure 2-2. Project area and archaeological sites within 250 m of the project area.

observed to have been used previously as a ready-made trench for an iron pipe. The *acequia* was recommended at this time as eligible for the NRHP (Fox and Cox 1988).

A portion of the Upper Labor Dam was documented following partial exposure during a rainstorm in Brackenridge Park in 1996 (Cox et al. 1999). It was at this time the dam and *acequia* were assigned trinomial 41BX1273 (Cox et al. 1999; THC 2023). Backhoe trenching by the CAR revealed portions of a limestone dam showing evidence of two different periods of construction. The lower portion of the dam, apparently Spanish Colonial, consisted of roughly cut limestone blocks with associated cedar posts. Above this component were cut, ashlar-dressed limestone blocks attributed to later nineteenth century modifications. The two components followed a slightly different alignment. The site was recommended as eligible for the NRHP and as a SAL (Cox et al. 1999).

The dam was revisited by the CAR in 2013-2014 (McKenzie and Smith 2017). At this time, the dam and the *acequia* were recorded as a new trinomial by the CAR, 41BX2043 (THC 2023). The 2013-2014 investigation concluded that the dam functioned as a weir dam and that the later construction period dates to the Confederate era. The description of the nature of its construction aligns with the previous investigation, including the use of two different types of limestone and the presence of cedar posts (Cox et al. 1999, McKenzie and Smith 2017). It also found multiple impacts to the dam across its length (McKenzie and Smith 2017).

Multiple sections of the Upper Labor Acequia have been documented. Within Brackenridge Park, the *acequia* was documented by Abasolo Consultants in 2010 and 2012 (McKenzie and Smith 2017). One of these was a secondary ditch off the main channel with modifications dating to the WPA era. An unlined, rubble-filled channel was documented about 365 m southeast of the project area by SWCA in 2014. This unlined section was recommended as ineligible for the NRHP and as a SAL due to disturbance (THC 2023). Approximately 550 m to the southeast, another unlined channel containing late nineteenth to the early twentieth-century material was documented by South Texas Archaeological Research Services (THC 2023).

41BX1425

41BX1425 is a multicomponent site, roughly 270 by 125 meters in area. SWCA performed subsurface testing of the site to determine its depth and areal extent. Historic artifacts were found on the surface and prehistoric to transitional Archaic artifacts were buried to a depth of up to 75 centimeters below

surface (cmbs). The site was heavily disturbed as a result of park construction projects and utility installations (Houk 2002).

41BX283

41BX283 was a historic period quarry, with associated lumber and pipe debris, as well as the remains of a metal bridge. Fox describes the quarry as likely not existing prior to 1890 and having ceased operations shortly before 1938 based on historic maps and aerial photos (Fox 1975). The site was destroyed as a result of construction of housing on the University of the Incarnate Word campus (McKenzie and Smith 2017).

41BX323

41BX323 is a multicomponent Early Archaic through Late Prehistoric site on the south bank of the San Antonio River. The site, identified by Katz and Fox of CAR-UTSA in 1976, was determined to have good integrity and was recommended for further testing. Throughout the 1990s and 2000s, the site has seen testing and data recovery by SWCA, CAR, and TARL (Figueroa and Dowling 2007:32; Houk 2002; Houk et al. 1999; Katz and Fox 1979).

41BX1754

41BX1724, Miraflores Park, is a multicomponent prehistoric and historic site located south of East Hildebrand Avenue and east of the Hildebrand entrance to Brackenridge Park, just along the east bank of the San Antonio River. The trinomial was assigned as a result of subsurface testing by CAR in 2008 and Adams Environmental in 2010, which found both historic and prehistoric materials (Fields et al. 2014; Ulrich and Figueroa 2008). Most of the prehistoric material at the site and some historic artifacts were likely deposited as a result of stream action (Fields et al. 2014; Ulrich and Figueroa 2008), though intact historical features were identified.

41BX1798

41BX1798 is a multicomponent pre-contact to historic site on the west bank of the San Antonio River, east of the Upper Labor Acequia, in the northeastern margin of Brackenridge Park. The component of interest for this project is a limestone cobble coffer dam just downstream from the Spanish Colonial Dam (41BX1273) studied by CAR in 2009 (Tomka and Dowling 2009). While its purpose is unclear, it was likely constructed either to facilitate the construction of the San Antonio Water Works Raceway to the south, to control flooding, or to slow the rate of flow through the raceway to dampen erosion (Tomka and Dowling 2009).

Chapter 3: Methodology

The San Antonio Parks and Recreation Department planned to excavate a trench within the boundaries of a previous sewer line trench, from the northern margin of the Upper Labor Acequia, heading northwest towards a sewer access point. Because the trench is located adjacent to the Upper Labor Acequia and is also located in a National Register of Historic Places district, the City of San Antonio's Office of Historic Preservation requested the CAR monitor the excavation in its entirety. No cultural features or intact cultural deposits were encountered during monitoring. The dimensions of the excavation and observations regarding trench deposits were recorded on standardized monitoring forms and the location of the trench was recorded using a Trimble GPS system.

Excavation was conducted with hand tools and an air spade, which removes sediment through a stream of compressed air. Given the uncertainty of where the sewer line was clogged, the planned excavation extended from the northern margin of the Upper Labor Acequia, following the sewer line northwest where it enters into a steep slope and joins the main sewer line below a parking lot.

Data recording in the field was performed on standardized forms printed on acid-free paper. Notes, forms, photographs, and drawings were placed in labeled archival folders. Digital photographs were printed on acid free paper. All project related materials were permanently stored at CAR's curation facility under accession number 2764. No artifacts were collected.

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Chapter 4: Results

CAR staff monitored air spade excavations on April 11 and 12, 2022. Workers with the San Antonio Parks and Recreation Department excavated the 80 cm wide by 5 m long trench to a maximum depth of 80 cm. It extended from the northern boundary of the Upper Labor Acequia to just short of the southern margin of the parking lot. Once this segment of the sewer pipe was exposed, it was broken open, unclogged, and investigated with a camera to evaluate whether there were any other clogs or damages further north within the pipe. No further clogs were identified and

excavation halted. The sewer pipe was replaced and a sewer pipe access point was installed. The area was backfilled with a sandy silt fill (Figure 4-1).

The surface of the excavation area contained modern trash, including scattered plastic fragments. The excavated soil was made up of loose silt that included abundant tree roots, mostly from a tree located about one meter north of the excavated trench (Figures 4-2 and 4-3). Soils contained mixed historic and modern materials, including modern terracotta fragments,



Figure 4-1. Backfilled trench with new PVC sewer access point visible near the Upper Labor Acequia (facing east).



Figure 4-2. Air spade excavation and monitoring in progress (facing south).



Figure 4-3. Northern section of trench after completion of excavation.

cut faunal bone, ceramic sewer pipe fragments, machine-made glass, and cement debris. A fragment of burned rock was also observed. No material was collected. The excavated trench contained mixed soils from the original sewer pipe

installation and material associated with the construction of the nearby parking lot and park hillside (Figure 4-4). No intact cultural deposits were encountered. No new portions of the Upper Labor Acequia (41BX2043) were exposed.



Figure 4-4. Trench profile at end of excavation. Note broken pipe, extensive roots, and silty deposits.

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Chapter 5: Summary and Recommendations

On April 11, and April 12 2022, UTSA-CAR monitored excavation by the City of San Antonio Parks and Recreation Department to repair a damaged sewer line in Brackenridge Park. Using an air spade, crews excavated and uncovered the sewer line at a depth of approximately 40 cmbs. Within the excavated fill, no diagnostic artifacts or features were identified.

The sewer line was fixed and backfilled. Based on these findings, CAR recommends no further archaeological monitoring or investigation of the excavated trench. However, given the rich archaeological resources within Brackenridge Park, archaeological investigation should be conducted in advance of other ground disturbances within the park in the future.

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References Cited:

- Bauer, K.J.
2023 Mexican War. Handbook of Texas Online. Electronic document, <https://www.tshaonline.org/handbook/entries/mexican-war>, accessed April 14, 2023.
- Bement, L.C.
1994 *Hunter-Gatherer Mortuary Practices During the Central Texas Archaic*. University of Texas Press, Austin.
- Black, S., L.W. Ellis, D.S. Creel, and G.T. Goode
1997 The Central Texas Burned Rock Midden Reconsidered. In *Hot Rock Cooking on the Greater Edwards Plateau: Four Burned Rock Middens in West Central Texas, Volume 1*, pp. 269-306. Texas Archeological Research Laboratory, The University of Texas at Austin, and Texas Department of Transportation, Austin.
- Blair, W.F.
1950 The Biotic Provinces of Texas. *Texas Journal of Science*, 1(2): 93-116.
- Burgett, G.R.
1998 Review of Archaeological Investigations at the Loma Sandia Site (41LK28): A Prehistoric Cemetery and Campsite in Live Oak County, Texas, Volumes 1 and 2. Studies in Archaeology 20. *Plains Anthropologist* 43(163):93-95.
- Chipman, D.E., and H.D. Joseph
2010 *Spanish Texas, 1519-1821*. Rev. ed. University of Texas Press, Austin.
- Collins, M.B., and M. Kay
2002 *Clovis Blade Technology: A Comparative Study of the Keven Davis Cache, Texas*. University of Texas Press, Austin.
- Cox, I.W.
1997 The Growth of San Antonio. In *Archaeology at the Alamodome: Investigations of a San Antonio Neighborhood in Transition, Volume 1, Historical, Architectural, and Oral History Research*, edited by A.A. Fox, M. Renner, and R.J. Hard, pp. 8-44. Archaeological Survey Report, No. 236. Center for Archaeological Research, The University of Texas at San Antonio.

2005 *The Spanish Acequias of San Antonio*. Maverick Publishing Company, San Antonio.
- Cox, I.W., E.D. Johnson, and C.B. Bousman
1999 *Excavations for the Upper Labor Dam Site, Brackenridge Park, San Antonio, Bexar County, Texas*. Archaeological Survey Report, No. 268. Center for Archaeological Research, The University of Texas at San Antonio.
- Cruz, G.R.
1988 *Let There Be Towns: Spanish Municipal Origins in the American Southwest, 1610-1810*. Texas A&M University Press, College Station.
- Davenport, H., and J.K. Wells
1918 The First Europeans in Texas, 1528-1536 I. *The Southwestern Historical Quarterly* 22(2):111-142.
- de la Teja, J.F.
1991 Forgotten Founders: The Military Settlers of Eighteenth Century San Antonio de Bexar. In *Tejano Origins in Eighteenth-Century San Antonio*, edited by G.E. Poyo and G.M. Hinajosa, pp. 27-41. University of Texas Press, Austin.

1995 *San Antonio de Bexar: A Community on New Spain's Northern Frontier*. University of New Mexico Press, Albuquerque

References Cited

Epstein, J.F.

1976 *The San Isidro Site: An Early Man Campsite in Nuevo Leon, Mexico*. The University of Texas, Austin.

Fields, R.C., K.W. Kibler, and A. Norment

2014 *Archeological Trenching at Miraflores Park (41BX1754), Bexar County, Texas*. Prewitt and Associates, Inc., Austin, Texas.

Figueroa, A. and J. Dowling

2007 *Additional Phase II Testing at 41BX323 in Brackenridge Park, San Antonio, Bexar County, Texas*. Archaeological Report, No. 377. Center for Archaeological Research, The University of Texas at San Antonio.

Foster, W.C.

1998 *The La Salle Expedition to Texas: The Journal of Henri Joutel 1664-1687*. Texas State Historical Association, Austin.

Fox, A.

1975 *An Archaeological Assessment of the Southern Portion of the Olmos Basin, Bexar County, Texas*. Archaeological Report, No. 9. Center for Archaeological Research, The University of Texas at San Antonio.

Fox, A., and I.W. Cox

1988 *Archaeological Monitoring of the Ashby Street Drainage Project, San Antonio, Bexar County, Texas*. Archaeological Survey Report, No. 176. Center for Archaeological Research, The University of Texas at San Antonio.

Habig, M.A.

1968 *The Alamo Chain of Missions: A History of San Antonio's Five Old Missions*. Franciscan Herald Press, Chicago.

Hall, G.D., S.L. Black, and C. Graves

1982 *Archaeological Investigations at Choke Canyon Reservoir, South Texas: The Phase I Findings*. Vol. 5. Center for Archaeological Research, The University of Texas at San Antonio.

Hämäläinen, P.

2010 *The Politics of Grass: European Expansion, Ecological Change, and Indigenous Power in the Southwest Borderlands*. *The William and Mary Quarterly* 67(2):173. DOI:10.5309/willmaryquar.67.2.173.

Hanson, C.

2016 *Archaeological Investigations for the Main Plaza Redevelopment Project, San Antonio, Bexar County, Texas*. Atkins, Austin.

Heusinger, E.W.

1951 *A Chronology of Events in San Antonio: Being a Concise History of the City Year by Year, From the Beginning of its Establishment to the End of the First Half of the Twentieth Century*. Standard Printing, San Antonio.

Houk, B.

2002 *The Brackenridge Park Rehabilitation Project: Data Recovery at 41BX323 and Testing at 41VBX1425, San Antonio, Bexar County, Texas*. SWCA, Inc. Environmental Consultants, Austin, Texas.

Houk, B., K. Miller, R. Meadows, and C. Ringstaff

1999 *Archaeological Excavations at 41BX323*. SWCA Resource Report 99-67. SWCA, Inc. Environmental Consultants, Austin, Texas.

Ivey, J.E.

2018 *Of Various Magnificence: The Architectural History of the San Antonio Missions in the Colonial Period and the Nineteenth Century*. Center for Cultural Sustainability, The University of Texas at San Antonio.

Ivey, J.E., and A.A. Fox

1999 *Archaeological Investigations at Mission Concepción and Mission Parkway*. Archaeological Survey Report, No. 114. Center for Archaeological Research, The University of Texas at San Antonio.

Katz, S.R. and A.A Fox

1979 *Archaeological and Historical Assessment of Brackenridge Park, City of San Antonio, Texas*. Archaeological Survey Report, No. 33. Center for Archaeological Research, University of Texas at San Antonio.

Kemp, L., J.E. Zapata, C.M.M. McKenzie, M. Pfeiffer, and R. Curilla

2020 *Archaeological Monitoring of the Downtown Street Reconstruction Project at North Main Avenue and Soledad Street and the State Antiquities Landmark Testing of 41BX2164 and 41BX2170, San Antonio, Bexar County, Texas*. Archaeological Report, No. 462. Center for Archaeological Research, The University of Texas at San Antonio.

Kenmotsu, N.A., D.K. Boyd, J.W. Arnn, and Z.I. Gilmore

2012 *The Toyah Phase of Central Texas: Late Prehistoric Economic and Social Processes*. Texas A&M University Press, College Station.

Lohse, J.C., D.B. Madsen, B.J. Culleton, and D.J. Kennett

2014a Isotope Paleoecology of Episodic Mid-to-late Holocene Bison Population Expansions in the Southern Plains, U.S.A. *Quaternary Science Reviews* 102:14–26. DOI:10.1016/j.quascirev.2014.07.021.

Lohse, J., B. Culleton, S. Black, and D. Kennett

2014bA Precise Chronology of Middle to Late Holocene Bison Exploitation in the Far Southern Great Plains. Index of Texas Archaeology Open Access Grey Literature from the Lone Star State. DOI:10.21112/ita.2014.1.78, accessed November 15, 2021.

Mauldin, R., J. Thompson, and L. Kemp

2012 Reconsidering the Role of Bison in the Terminal Late Prehistoric (Toyah) Period in Texas. In *The Toyah Phase of Central Texas: Late Prehistoric Economic and Social Processes*, pp. 90-110. Texas A&M University Press, College Station.

McKenzie, C.M., L. Martinez, and R. Mauldin

2016 *Archaeological Monitoring and Test Excavations at the 1722 Presidio San Antonio de Bexar (Plaza de Armas Buildings)*. Archaeological Report, No. 445. Center for Archaeological Research, The University of Texas at San Antonio.

McKenzie, C., and S. Smith

2017 *Archaeological Investigations of the Alamo Dam and Upper Labor Dam, Brackenridge Park, San Antonio, Bexar County, Texas*. Archaeological Survey Report, No. 444. Center for Archaeological Research, The University of Texas at San Antonio.

Mecham, J.L.

1926 Antonio de Espejo and His Journey to New Mexico. *The Southwestern Historical Quarterly* 30(2):114–138.

Meissner, B.A.

2000 *An Archaeological Assessment of San Pedro Park (41BX19), San Antonio, Texas*. Archaeological Survey Report, No. 269. Center for Archaeological Research, The University of Texas at San Antonio.

Miller, M.J.

2009 “A Tale of Two Weapons”: Late Holocene Hunting Technology in North Central Texas. Master’s thesis, Department of Anthropology, University of North Texas, Denton.

Pfeiffer, M.W. and S.A. Tomka

2011 Brackenridge Park National Register of Historic Places Registration Form. National Park Service.

Poyo, G.E.

1991 The Canary Island Immigrants of San Antonio: From Ethnic Exclusivity to Community in Eighteenth-Century Bexar. In *Tejano Origins in Eighteenth-Century San Antonio*, edited by G.E. Poyo and G.M. Hinajosa, pp. 41-61. University of Texas Press, Austin.

References Cited

Scurlock, D., A. Benavides, Jr., D. Isham and J.W. Clark, Jr.

1976 *An Archaeological and Historical Survey of the Proposed Mission Parkway, San Antonio, Texas*. Archaeological Survey Report, No. 17. Office of the State Archaeologist, Texas Historical Commission, Austin.

Shafer, H.J., and S.A. Tomka

2003 Early Middle Archaic Lithic Assemblages. In *Royal Coachman (41CM111) An Early Middle Archaic Site along Cordova Creek in Comal County, Texas*, by R.B. Mahoney, H.J. Shafer, S.A. Tomka, L.C. Nordt, and R.P. Mauldin, pp. 83-86. Archaeological Survey Report, No. 332. Center for Archaeological Research, The University of Texas at San Antonio.

Solis, K.

2020 An Analysis of Hunter-Gatherer Territoriality and Post-Marital Residence Patterns in the Late Archaic Texas Coastal Plain Using Strontium Radiogenic Isotopes ($^{87}\text{Sr}/^{86}\text{Sr}$). Ph.D. dissertation, Department of Anthropology, The University of Texas at San Antonio.

Taylor, A.J.

1998 Mortuary Practices and Territoriality: Archaic Hunter-Gatherers of Southern Texas and the Loma Sandia Site (41LK28). Ph.D. dissertation, Department of Anthropology, The University of Texas at Austin.

Texas Historical Commission (THC)

2023 Texas Archeological Sites Atlas. Texas Historical Commission. Electronic document, <https://atlas.thc.state.tx.us/>, accessed August 16, 2023.

Tomka, S.A., and J.J. Dowling

2009 *Data Recovery at 41BX1798: The Miraflores Park Bridge Project*. Archaeological Survey Report, No. 405. Center for Archaeological Research, The University of Texas at San Antonio.

Ulrich, K., and A. Figueroa

2008 *Archaeological Services Associated with Improvements to Miraflores at Brackenridge Park, San Antonio, Bexar County, Texas*. Archaeological Report, No. 387. Center for Archaeological Research, The University of Texas at San Antonio.

United States Department of Agriculture (USDA)

1966 Soil Survey Bexar County Texas.

Weir, F.A.

1976 The Central Texas Archaic. Ph.D. dissertation, Department of Anthropology, Washington State University, Pullman.

Woodruff Jr., C.M., and P.L. Abbott

1979 Drainage-basin Evolution and Aquifer Development in a Karstic Limestone Terrain South-Central Texas, U.S.A. *Earth Surface Processes* 4(4):319–334. DOI:10.1002/esp.3290040403.

Wooster, R.A.

2023 Civil War. Handbook of Texas Online, Texas State Historical Association. Electronic document, <https://tshaonline.org/handbook/online/articles/qdc02>, accessed August 16, 2023.