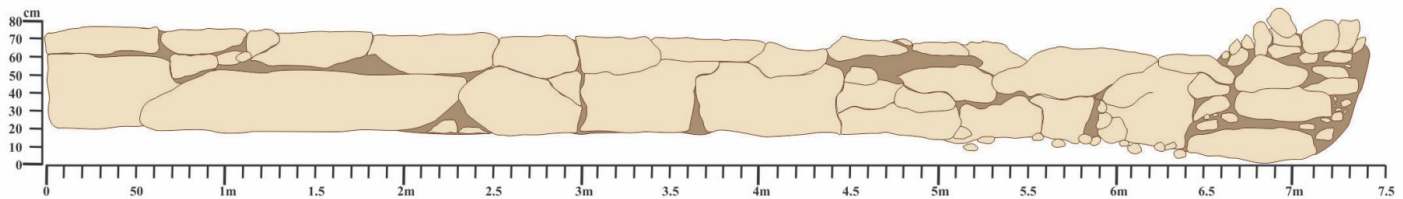


Archaeological Investigations for the Mother of the Americas Faith Formation Center, San Antonio, Bexar County, Texas

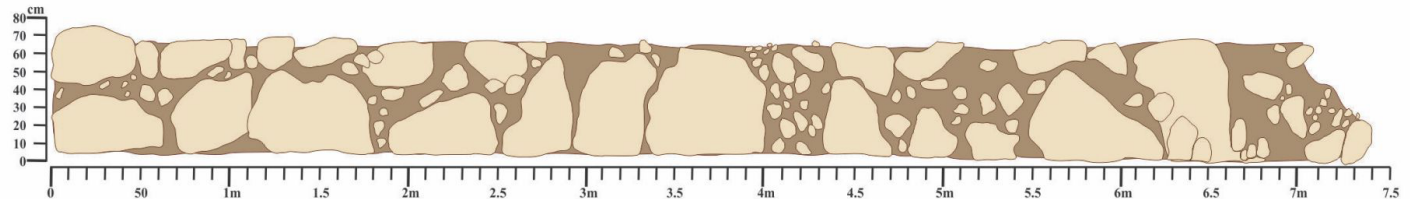
by
José E. Zapata

Acequia Madre de Valero (41BX8)

West Wall Profile



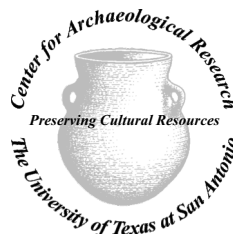
West Wall Plan View



REDACTED

Principal Investigator
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San Antonio, Texas 78228



Prepared by:
Center for Archaeological Research
The University of Texas at San Antonio
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San Antonio, Texas 78249-1644
Archaeological Report, No. 458

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**Archaeological Investigations for the
Mother of the Americas Faith Formation Center,
San Antonio, Bexar County, Texas**

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Abstract:

The Center for Archaeological Research (CAR) at The University of Texas at San Antonio (UTSA), in response to a request from the Archdiocese of San Antonio, conducted archaeological testing and monitoring for construction activities associated with the Mother of the Americas Faith Formation Center. Archaeological fieldwork was completed between June 2016 and April 2017.

The Area of Potential Effect (APE) was adjacent to St. Joseph Catholic Church and Rectory in downtown San Antonio, Bexar County, Texas. The St. Joseph Catholic Church is a Recorded Texas Historical Landmark and a contributing building to the Alamo Plaza National Register District. The property is traversed by the *Acequia Madre de Valero* (41BX8), within a River Improvement Overlay District, is reported as the possible site of the Battle of the Alamo funeral pyres, is reported as one of the possible sites of the second location of Mission *San Antonio de Valero*, the Alamo (41BX6), and is adjacent to the historic Alameda (East Commerce Street).

The APE included 0.185 acres of existing parking lot adjacent to the east of St. Joseph Catholic Church. The Archdiocese of San Antonio planned to construct the two-story Mother of the Americas Faith Formation Center in place of the parking lot. These improvements required below-grade excavations of between 3 and 14 ft. and excavations for foundation piers to depths of 30 and 36 ft. below the grade. The City of San Antonio's (COSA) Office of Historic Preservation (OHP) Historic and Design Review Commission required archaeological investigations under the Unified Development Code, Chapter 35, for the Mother of the Americas Faith Formation Center Project. The project was on private property and did not receive or use any Federal or State funding; therefore, it did not fall under the Antiquities Code of Texas or require regulatory review by the Texas Historical Commission (THC). José Zapata was the Project Archaeologist, and Dr. Paul Shawn Marceaux served as Principal Investigator.

There was no evidence of the Battle of the Alamo funeral pyres or the second location of Mission *San Antonio de Valero*, (the Alamo), but testing and monitoring resulted in locating a large intact section of the *Acequia Madre de Valero* (41BX8). For over 100 years, the acequia in this location had been forgotten, as it lay beneath a thin layer of road base and asphalt. Once exposed, a 23-ft. section of the acequia was thoroughly documented and studied before the majority of the feature was preserved and protected. A layer of commercial-grade landscape cloth and sand were laid down to protect the extant sections of acequia before it was backfilled. A 14-ft. section of the acequia's east wall was removed to accommodate a new pier and beam foundation associated with new development on the property.

In addition to architectural features associated with the *Acequia Madre de Valero* (41BX8), a total of 11,890 artifacts were recovered during the investigation. Of these artifacts, more than 95 percent were recovered from sediments inside the *Acequia Madre de Valero* (41BX8) associated with drainage settling. These sediments represent residuals left over after the very last channel-cleaning event. Based primarily on an analysis of the ceramics and personal items recovered from Area A (within the acequia channel), the artifacts date primarily to the mid-to-late nineteenth century. This date corresponds with historical data documenting the close of the acequia. The CAR recommends that the extant portions of the acequia be preserved and protected from future site development and recommends no additional archaeology at this time. CAR also recommends this segment of the *Acequia Madre de Valero* (41BX8) is eligible for listing on the National Register of Historic Places (NRHP) and designation as a State Antiquities Landmark (SAL).

In accordance with the Scope of Work for this project, all field notes, analytical notes, photographs, and other project-related documents, along with a copy of the final report, will be curated at CAR. After quantification and completion of analysis, artifacts possessing little scientific value will be discarded. Classes of artifacts specific to this project will likely include glass, metal, and modern material. All other collected artifacts will be retained by the owner and held at CAR under a held-in-trust agreement.

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Acknowledgements:

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Chapter 1: Introduction

The Center for Archaeological Research (CAR) at The University of Texas at San Antonio (UTSA), in response to a request from the Archdiocese of San Antonio and the Most Reverend Gustavo García-Siller, M. Sp. S., conducted archaeological testing and monitoring between June 2016 and April 2017 for construction activities associated with the Mother of the Americas Faith Formation Center. The project area is adjacent to St. Joseph Catholic Church in downtown San Antonio, Bexar County, Texas (Figure 1-1).

St. Joseph Catholic Church, a Recorded Texas Historical Landmark and a contributing building to the Alamo Plaza National Register District, is located at 623 East Commerce

Street. The property is traversed by the *Acequia Madre de Valero* (41BX8), is adjacent to the historic Alameda (East Commerce Street), and is located within a River Improvement Overlay District. Furthermore, the area is reported as the possible site of the Battle of the Alamo funeral pyres and is also one of the possible sites of the second location of Mission *San Antonio de Valero* (41BX6).

The City of San Antonio's (COSA) Office of Historic Preservation (OHP) Historic and Design Review Commission required archaeological investigations under the Unified Development Code, Chapter 35 for the Mother of the Americas Faith Formation Center Project. The planned investigations

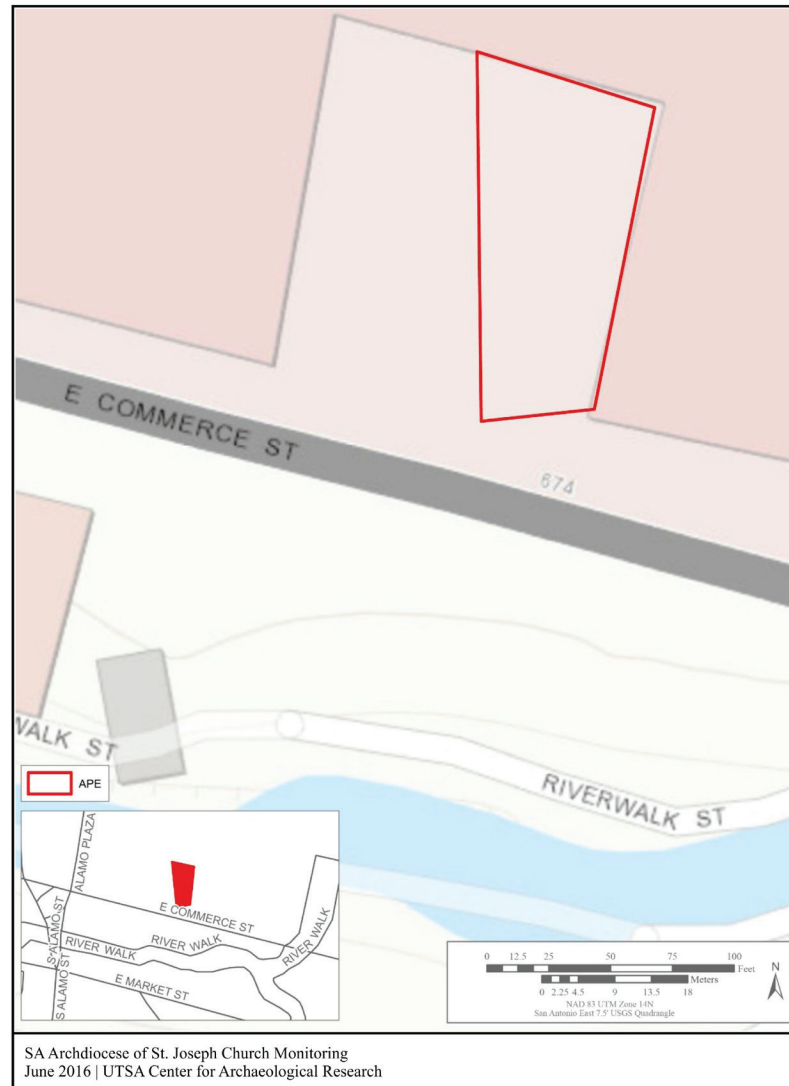


Figure 1-1. The location of the APE on San Antonio East USGS 7.5-minute quadrangle map.

incorporated discussions with Kay Hinds and Matthew Elverson of the COSA OHP regarding OHP requirements for the project. The project was on private property and did not receive or use any State or Federal funding; therefore, it did not require State or Federal oversight or fall under Section 106 of the National Historic Preservation Act or Antiquities Code of Texas. As such, the project required no regulatory review by the Texas Historical Commission (THC). The Area of Potential Effect (APE) included 0.185 acres of existing parking lot to the east of St. Joseph Catholic Church (Figure 1-2).

CAR staff oversaw the excavation of seven backhoe trenches. Five of the backhoes trenches were located along the known path of the acequia, and two were used to test areas along the northeast quadrant of the APE. Monitoring activities involved three separate work items. The first work item was

the removal of asphalt paving and caliche base, followed by extensive grading and extraction of abandoned masonry wall footings and basements. The second item involved monitoring the drilling related to the installation of nineteen, 18- to 30-in. diameter piers to depths of 30-36 ft. below the surface. The third work item required monitoring the installation of utilities at the south end of the APE. Archaeological testing and monitoring resulted in locating an extant section of the *Acequia Madre de Valero* (41BX8). Testing along the acequia produced over 11,890 artifacts, with 70 percent of these recovered from sediments associated with drainage settling.

The suite of artifacts represents residuals left over after the very last channel cleaning, which occurred between 1896 and 1904. José Zapata, who served as the Project Archaeologist, led the fieldwork and subsequent write-up with Dr. Paul Shawn Marceaux serving as the Principal Investigator.



SA Archdiocese of St. Joseph Church Monitoring
June 2016 | UTSA Center for Archaeological Research

Figure 1-2. The location of the APE on satellite imagery.

CAR staff did not locate evidence of the Battle of the Alamo funeral pyres nor any indications of an early eighteenth-century occupation of the site. However, CAR staff were successful in locating the *Acequia Madre de Valero* (41BX8). Once the acequia was fully documented, and in consultation with the COSA OHP, the stone-constructed west wall and acequia channel were lined with commercial-grade landscape fabric and backfilled with sand. A 14-ft. section of the east wall was removed to accommodate a new pier and beam foundation associated with new development on the property. CAR recommends the acequia remnants be preserved in place and protected from future site development. No additional archaeology is recommended at this time. CAR also

recommends this segment of the *Acequia Madre de Valero* (41BX8) is eligible for listing on the National Register of Historic Places (NRHP) and designation as a State Antiquities Landmark (SAL).

The following report is divided into six chapters. Chapter 2 presents the site background, which includes a history of the St. Joseph Catholic Church and Rectory. Chapter 3 provides a synopsis of previous research, and Chapter 4 outlines the field and laboratory methods. The results of these investigations are presented in Chapter 5. Finally, Chapter 6 provides a summary of the work and recommendations regarding any future work.

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Chapter 2: Site Background

The prehistory of San Antonio's central core is unclear, as much of the evidence has been erased through recurrent urban development of the past 300 years. However, based on the archaeology of areas adjacent to the headwaters of the San Antonio River and San Pedro Creek, San Antonio was home to several Native groups dating back to at least 11,000 years before present (BP). As CAR staff observed no prehistoric cultural materials during the current project, prehistoric chronologies are not discussed in this report. For a detailed discussion of San Antonio's prehistory, readers are encouraged to refer to several CAR reports (see Black 1976; Kelly and Eaton 1979; Mauldin et al. 2015). Additionally, recent work by CAR less than half a mile south of the APE exposed other extant sections of the *Acequia Madre de Valero* (41BX8). See Zapata et al. (2018) for a comprehensive review of the history of the *Acequia Madre de Valero* (41BX8).

At the time of the Spanish *entradas* (expeditions), explorers described the San Antonio area as being an excellent place to settle, with an abundance of water, arable land, and wild game (Castañeda 1935:48-50). Given such a favorable environment, the Marquis de Valero wasted no time in appointing Martín de Alarcón as Governor of Coahuila and Texas in 1716 and

assigning him the task of establishing the Presidio of *San Antonio de Béxar*. The Spanish established the presidio in 1718, and the Franciscans established Mission *San Antonio de Valero* (41BX6) that same year (Castañeda 1935:189-190). The original location of the presidio and mission was near the San Pedro Springs, then both relocated further downstream, and the mission was relocated again to its present location in 1724 (Zapata and McKenzie 2017:5). Besides constructing expedient shelters, the missionaries and soldiers built a series of gravity-fed irrigation canals, or *acequias*.

Mission *San Antonio de Valero* (41BX6) was secularized in 1793 and the *Labor de Abajo* (lower farmland) was then surveyed and granted to 14 of the surviving Native American families. José Luis Hernández, a soldier from Los Adaes (Galan 2008:51), was among the landless *Adaseños* who were allowed to draw a *suerte* of land after the Native American families had been allotted theirs. Hernández's *suerte* fronted the Alameda (East Commerce Street) and was bordered on the west by the *Acequia Madre de Valero* (41BX8) and on the east by the *Acequia Madre* (Fox and Renner 1999:10). The APE is overlaid on former City Engineer John D. Rullman's c.1837 map of San Antonio (Figure 2-1).



Figure 2-1. APE in blue highlight, right of center, on Rullman's depiction of San Antonio in 1837.

Site History

By as early as 1840, Jean-Marie Odin, acting on behalf of the Archdiocese of New Orleans, began purchasing town lots and larger tracts of land (Bexar County Deed Records [BCDR] A2:348, A2:430). In 1841, with the help of the French Legation in Austin, Odin successfully lobbied the Republic of Texas to return some of the Spanish colonial properties (Diekemper 1983:31). Odin was consecrated a bishop in 1842 and continued working in Texas. In 1846, Bishop Odin petitioned for a diocese in Texas, which was created in May 1847 and to which he was appointed its first bishop. Now with full authority, Bishop Odin went about reorganizing the Catholic Church in Texas (Diekemper 1983:32). Bishop Odin was elevated to Archbishop of New Orleans in 1861 and was succeeded in Galveston by Bishop Claude Dubuis, who continued in that role until 1892.

St. Joseph Catholic Church is located directly south of Mission *San Antonio de Valero*, the Alamo (41BX6), and is within an area that was mission farmland. At one time, the west branch of the *Acequia Madre de Valero* (41BX8) served as the site's property boundary (BCDR R1:584-585). Bishop Odin purchased the lot on the north side of the Alameda and west of the *Acequia Madre de Valero* (41BX8) from José Leonardo de la Garza Trudo and his wife, Juana Montes de Oca for \$591.65, in September 1859 (BCDR R1:584-585). The deed required that de la Garza and his wife be allowed “the right of way or of crossing the Lot sold...so as to get water from the Alamo Ditch for the use of his house and

family” and that “the purchaser dig through the Lot a ditch... so as to enable the vendor to use the water of the Alamo Ditch [*Acequia Madre de Valero*] for irrigating the portion of the Lot that remains unsold” (BCDR R1:584-85). Based on the stipulation that the seller (vendor) be allowed to cross the lot, it would appear that de la Garza and his wife lived directly west of the lot they sold to Bishop Odin. Figure 2-2 is a copy of the plat, with part of the original script presented as type so that it is legible (BCDR R1:584-85).

By the late 1850s, the ever-increasing German Catholic population of San Antonio began to petition for a church of their own. The Spanish speaking population had San Fernando, the Irish had St. Mary's, and the Germans held service at the Mission San José (Valentine 2014:88). In 1865, Bishop Dubuis attempted to annul the lease with the Army, so the German Catholic congregation of San Antonio could then develop the Alamo property. His request was denied, and the U.S. Army Quartermaster remained at the Alamo until 1877 (Smith 2015:280, 284). As noted earlier, Bishop Odin had purchased a lot off the Alameda in 1859. Given the burgeoning German neighborhoods to the immediate east and south of the stated property (Fox and Renner 1999:14), it made sense to construct St. Joseph in its present location.

In the 1860s, Hermann Lungkwitz produced a scene of the Alameda, present-day Commerce Street. The view is to the southeast, based on the old watchtower that can be seen in the horizon, left of center (Figure 2-3).

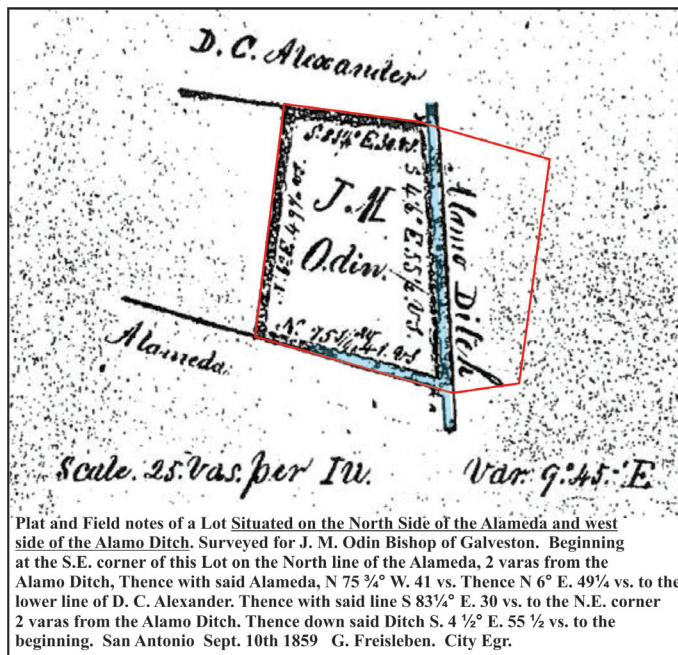


Figure 2-2. Plat and field notes from the City Engineer in 1859. APE in red and acequia and its lateral are in light blue.



Figure 2-3. *Alameda* by Hermann Lungkwitz, ca. 1860s; note acequia crossing at right foreground (<https://commons.wikimedia.org>).

Construction of St. Joseph Church began in 1868, and it was partially completed, dedicated, and in use by 1871. However, the steeple was not completed until 1898, and the imported stained glass windows were not installed until 1902 (Valentine 2014:88-89). The east elevation of the Rectory abuts the *Acequia Madre de Valero* (41BX8). The Sanborn Fire Insurance Maps for 1885 and 1892 show the acequia as it runs along the site's east property line (Figure 2-4).

An early reference to the annual cleaning of the acequia was found in the City of San Antonio's archives. This early nineteenth-century mention of limestone, as it relates to the acequia's mode of construction, suggests that some segments may have been stone-lined while others were not.

Mr. Navarro Called to remind that 'the last day of the current month was nearing, on which the cleaning of the ditch which crosses the plaza of this City should be finished; and for that same reason the citizen Ygnacio Perez begged that the date be postponed for a few days more -- as many as the Corporation judged convenient --

in order that he might finish with the limestone that must be thrown into the said ditch. This was given consideration, and after a discussion it was resolved to postpone it for him, the said Perez, for eight days more, with the proviso that on the eight day the water must be turned on, regardless of condition in which the ditch might be [COSA, Spanish Minutes Translation, Book One:310, Feb 25, 1830].

The earliest Sanborn Fire Insurance Map for this area dates to 1885. As seen in Figure 2-4, the acequia is depicted in a linear trajectory, as opposed to the meandering depiction of it in some early plats of this area (Figures 2-5, 2-6, and 2-7). The meandering, almost jagged trace of the acequia may suggest that it was not stone-lined. The painting by Lungkwitz shown above depicts an earthen channel. It could be that the acequia was straightened and stone-lined around 1868, when St. Joseph Church and Rectory were constructed. This would have aligned the acequia with the east elevation of the rectory and the adjacent street. Note that all three plats depict the misalignment of the acequia with St. Joseph Street.

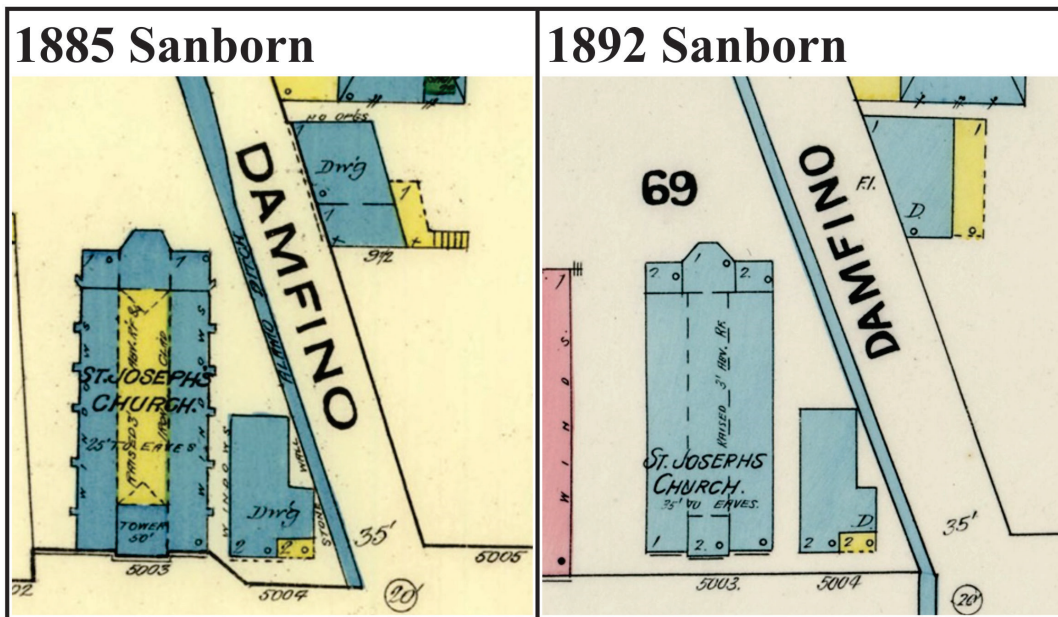


Figure 2-4. Sanborn Fire Insurance Maps for 1885 and 1892; note acequia adjacent to the Rectory.

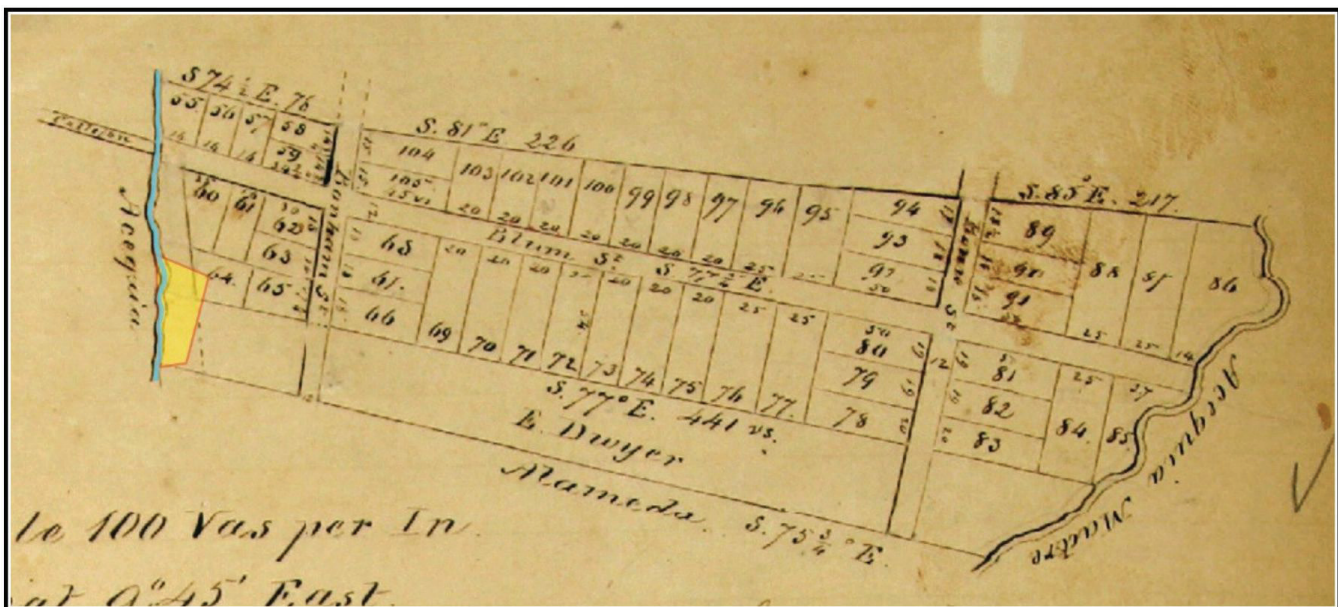


Figure 2-5. 1852 Plat, note acequia (blue highlight) and APE (yellow highlight) at left (COSA Archives, Subdivision, Civil Engineer Survey Book 1, page 155, dated May 22, 1852).

By the late nineteenth century and early twentieth century, the use of the acequia for discarding trash was a constant problem (Cox 2005:69). Serious discussions and action concerning the fate of the old irrigation canals intensified in 1895, and by 1905 the acequias in the town center had been abandoned and covered over (Cox 2005:67). The 1904 Sanborn Fire Insurance Map and those published after that year do not show the acequia, which would indicate that it was finally abandoned and paved over sometime between 1896 and 1904 (see Figure 2-8).

The current configuration of the St. Joseph property began to take shape in March 1946, when the COSA abandoned St. Joseph Street and sold the tract to the Catholic Archdiocese for \$5,000.00 (Ordinance 3141 dated 7 March 1946, COSA Municipal Archives 2017). On June 13, 1946, the Archdiocese sold adjacent Lots 64 and 65, NCB 151, to Joske Brothers Company for \$30,875.00 (BCDR 2260:100-103). Not long after, Joske Brothers began enlarging their footprint and effectively walled in St. Joseph Church on three sides (Alves 2007:58).

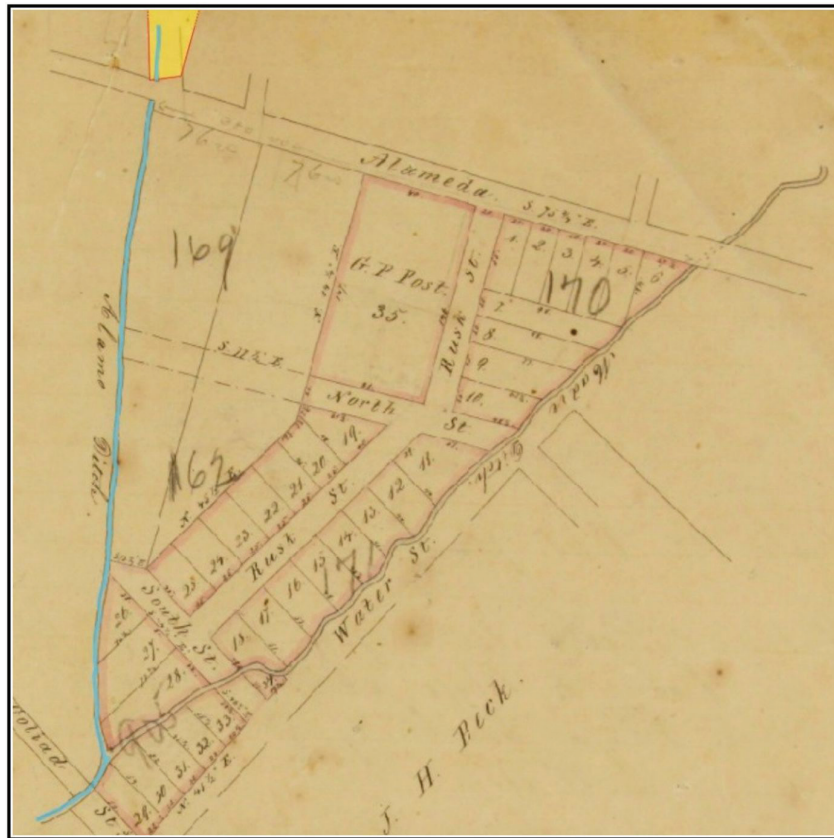


Figure 2-6. 1854 Plat, note acequia (blue highlight) and south end of APE (yellow highlight) at left (COSA Archives, Subdivision, Civil Engineer Survey Book 1, page 224, dated October 10, 1854).

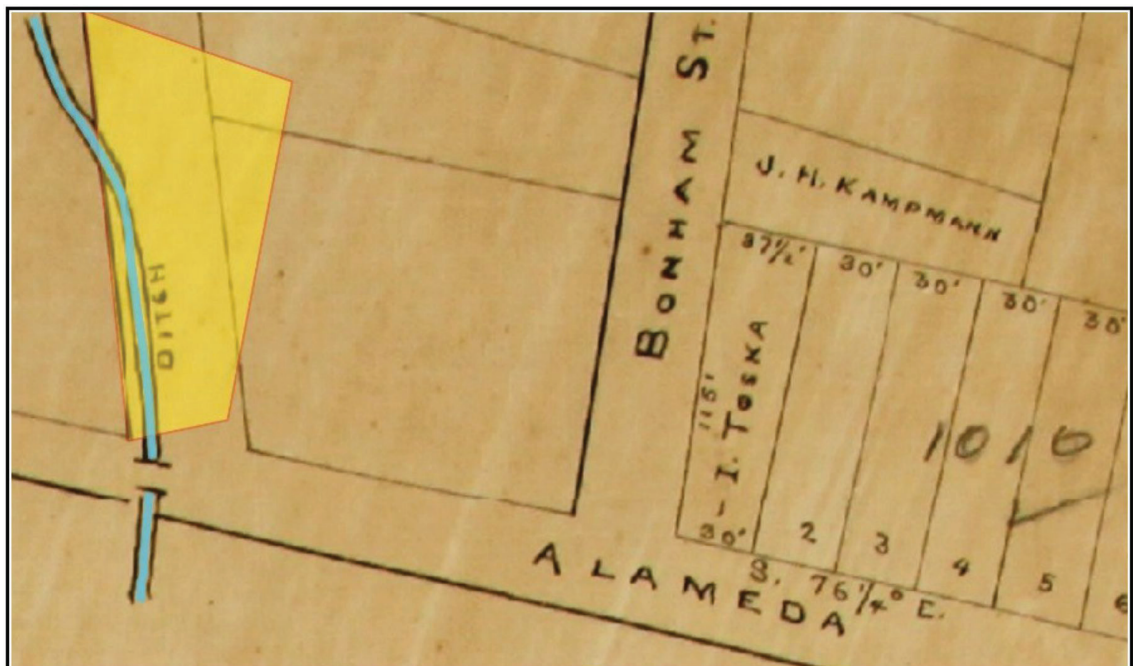


Figure 2-7. 1865 Plat, note acequia (blue highlight) and APE (yellow highlight) at left (COSA Archives, Subdivision, Plat Book 2, page 20, dated October 1, 1865).

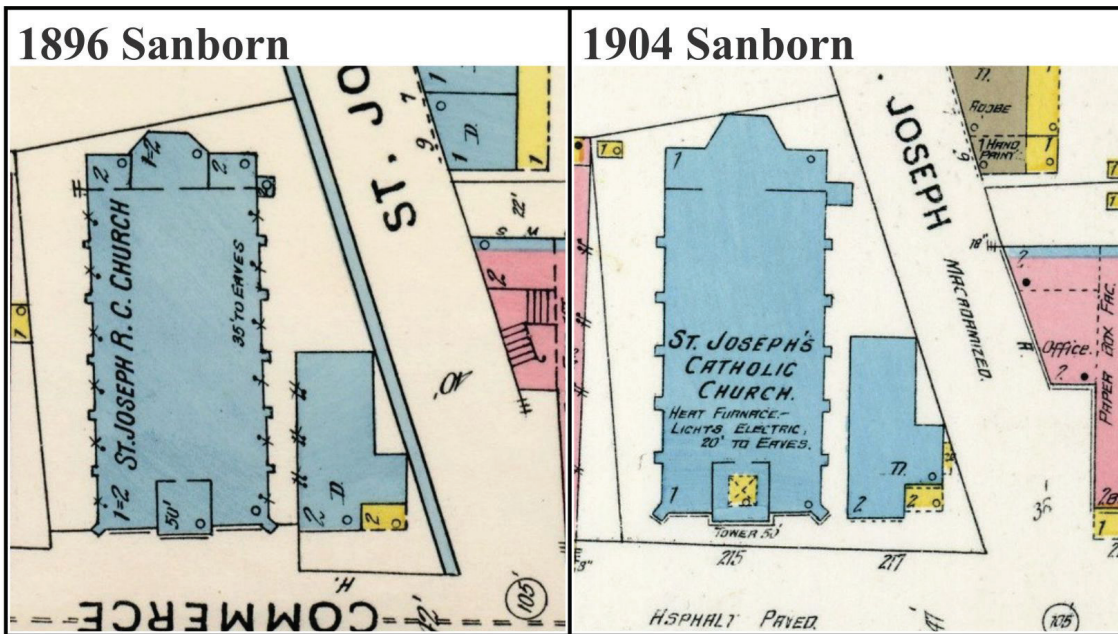


Figure 2-8. Sanborn Fire Insurance Maps for 1896 and 1904; note acequia is paved over by 1904.

Chapter 3: Previous Research

The project area is located in downtown San Antonio, just south of Mission *San Antonio de Valero*, the Alamo (41BX6). Although numerous archaeological and archival investigations of the Alamo and Alamo Plaza have been completed, none have covered the present study area (Figure 3-1 and Table 3-1). There are three recorded sites to the north of the APE: Mission *San Antonio de Valero* (41BX6), the Radio Shack site (41BX438), and the Thielepape House (41BX507). The latter two sites are within the Alamo's Historic-period footprint. In 1984-1985, the CAR located 14 Historic-period sites in the Rivercenter Mall (Las Tiendas) project area (Fox and Renner 1999).

The Rivercenter Mall Project involved two city blocks and 75 city lots, and it resulted in the recording of 14 archaeological sites. The area was first developed in the mid-nineteenth century, as larger tracts were subdivided and sold as town lots. Small residential cottages sprang up along the tree-lined Alameda (East Commerce Street; Fox and Renner 1999). Construction of the St. Joseph Catholic Church, a short distance away, began in the late-1860s. By the 1940s, numerous dwellings and commercial buildings had been constructed on the Rivercenter Mall site. Some of these older buildings were razed in the 1950s to make way for an enlarged footprint of Joske's Department Store and for

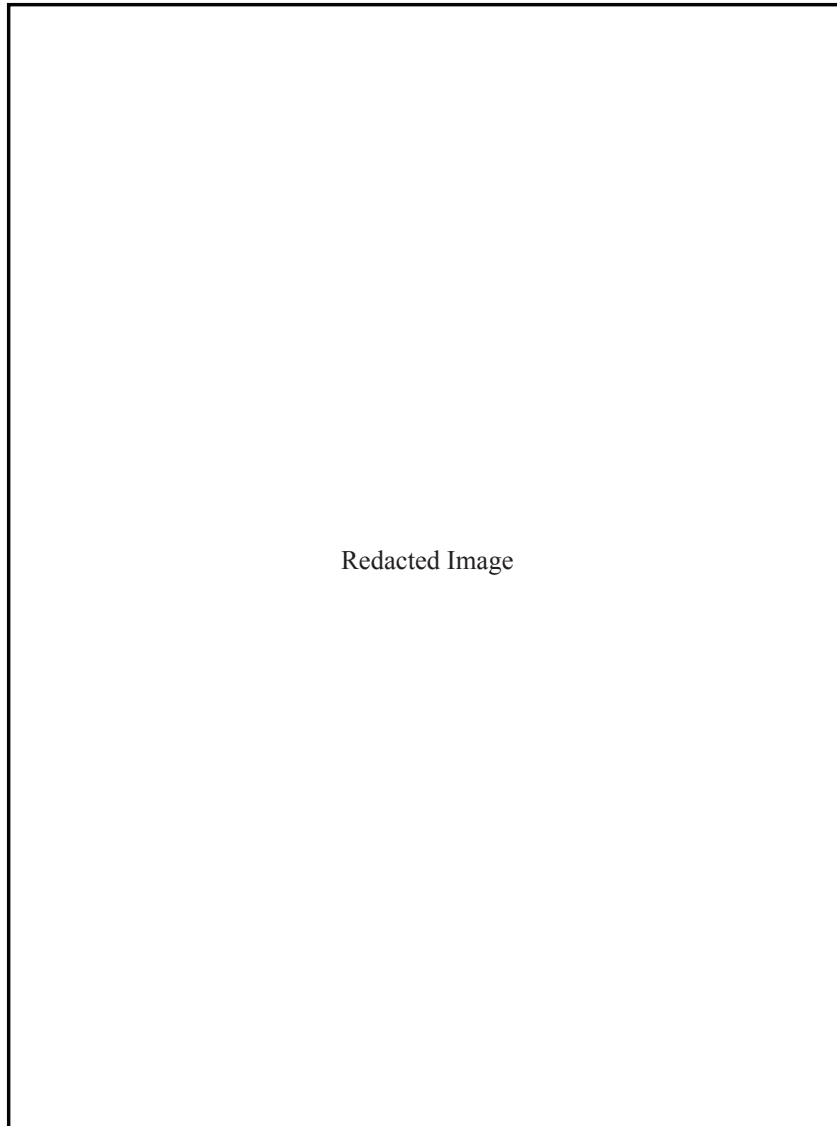


Figure 3-1. Archaeological sites within 820 ft. of the Mother of the Americas APE.

use as surface parking. Figure 3-2 illustrates the proximity of the Mother of the Americas APE to the Alamo and to the Rivercenter Mall APE.

The Rivercenter Mall Project was extensive and completed in four phases: archival and literature review; architectural assessment of standing structures; monitoring and testing; and selective mitigation of features located through the Phase 3 testing. As a result, 12 new sites were recorded, and a great amount of data was recovered and reported. Chapter 15 of

the Rivercenter Mall report discusses the search for the 1836 Battle of the Alamo funeral pyres (Fox and Renner 1999:97-102). The search was conducted on the Ludlow and Moody site, a “probable location” based on historical accounts (Fox and Renner 1999:99), shown in Figure 3-2. The report concluded that “either all traces of the funeral pyres have been entirely eliminated...or that this was not actually the scene of the event” (Fox and Renner 1999:102). After the conclusion of the fieldwork, the entire Project Area was excavated to a depth of approximately 28 ft. (Fox and Renner 1999:107).

Table 3-1. Archaeological Sites within 820 ft. of the APE

Trinomial	Site Name	Description
41BX6	Mission <i>San Antonio de Valero</i> , the Alamo	Franciscan mission, 18th century
41BX437	Ice Plant	19th and early 20th century ice factory
41BX438	Radio Shack Site	West wall of Mission <i>San Antonio de Valero</i>
41BX507	Thielepape House	Wall foundations, early to mid-19th century (Alamo Complex)
41BX632	Degen House	House foundation and privy pit, late 19th to early 20th century
41BX633	Tengg Site	House foundation and privy pit, late 19th to early 20th century
41BX634	Vanderstratten Site	House foundations, privy pit and well, late 19th to early 20th century
41BX635	Faska Site	House foundation and privy pit, late 19th to early 20th century
41BX636	Degen Brewery	Brewery foundation, late 19th to early 20th century
41BX637	Mueller Site	House foundation and privy pit, late 19th to early 20th century
41BX638	Fischer Site	House foundation and trash pit, late 19th to early 20th century
41BX639	Palm House	House foundation, outbuilding post holes and trash pit
41BX640	Ludlow House	Brick foundation, late 19th to early 20th century
41BX641	Battaglia Site	Privy pit, late 19th to early 20th century
41BX642	Kissling Site	Artifact scatter in backyard, late 19th to early 20th century
41BX643	Ludlow Site Outbuildings	Privy pit, late 19th to early 20th century
41BX645	Biesenback Well	Stone-lined well, late 19th century
41BX646	Staffel Building	Commercial building, late 19th to early 20th century
41BX1952	James Family Homestead	13-ft. long wall foundation and trash midden
41BX2183	n/a	House foundation, late 19th to early 20th century

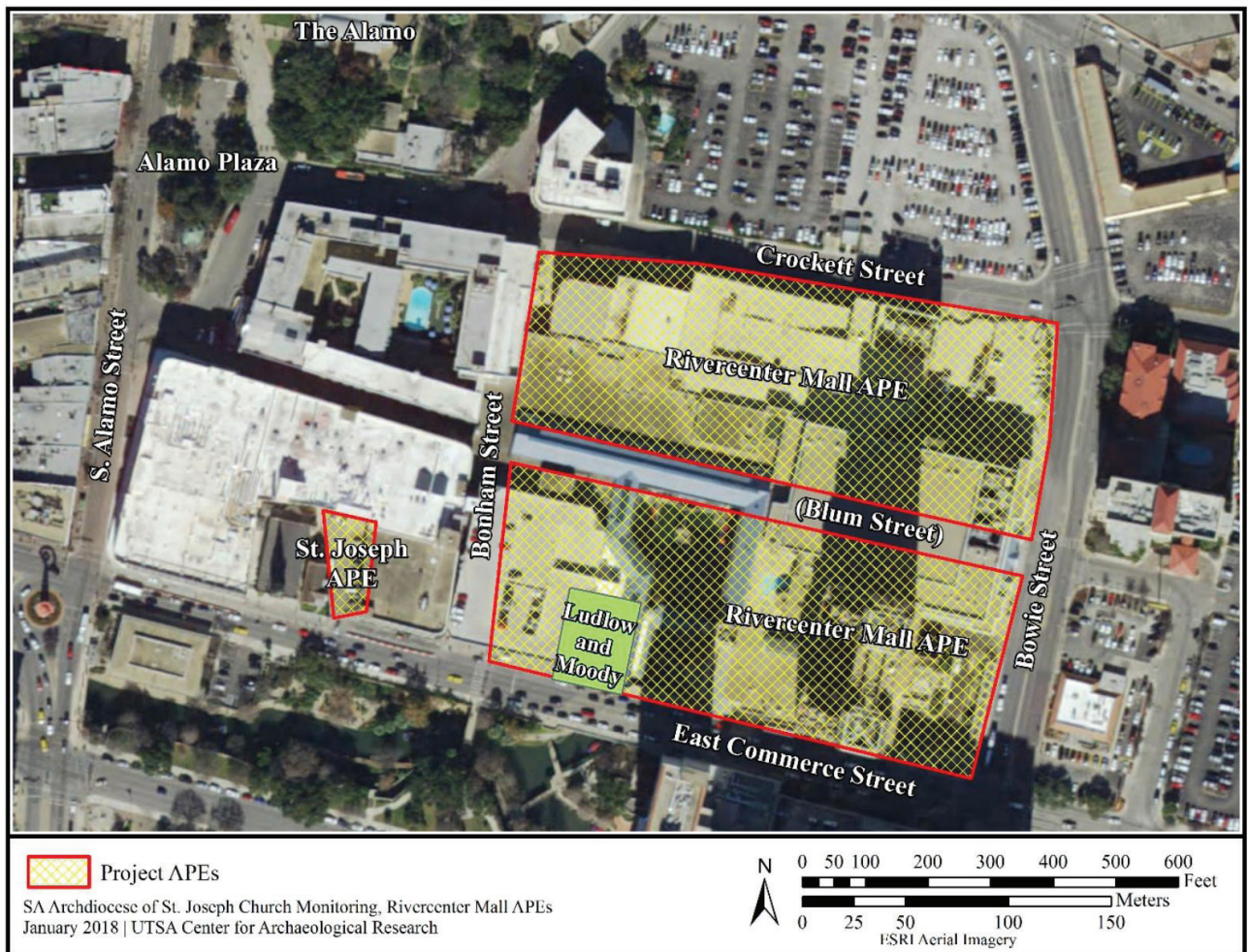


Figure 3-2. The Alamo at top left, Mother of the Americas APE at left of center, and the Rivercenter Mall with the Ludlow and Moody site (in green) shown at bottom center.

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Chapter 4: Field and Laboratory Methods

The Archdiocese of San Antonio planned to construct a two-story Mother of the Americas Faith Formation Center at the northeast corner of the property and adjacent to St. Joseph Catholic Church and Rectory. These improvements required extensive excavations to accommodate foundation piers and beams and infrastructure upgrades. Archaeological investigations included exploratory backhoe trenching and monitoring of mechanical excavations.

Field Methods

Project Archaeologists maintained a daily log of activities for all fieldwork, including monitoring. Activities were documented in this log and supported by digital data, including GPS observations and photographs, where

appropriate. A lab-based GIS/Illustrator supported the fieldwork by downloading and managing the Trimble GPS data. A total station operator was present for mapping. The Project Archaeologist downloaded photographic data and maintained a photographic log in addition to the daily monitoring logs.

A review of the late nineteenth- and early twentieth-century Sanborn Fire Insurance Maps indicated that the path of the *Acequia Madre de Valero* (41BX8) lay directly parallel to the east elevation of the St. Joseph Rectory (see Figure 2-5). For this reason, a series of three, east-west backhoe trenches (BHTs 1, 2, and 5) were initially placed along the probable path of the acequia (Figure 4-1). This strategy proved successful in uncovering the acequia, and after consultation with the City Archaeologist, it was decided to excavate



Figure 4-1. Plotting the probable path of the acequia with marking paint, north of the Rectory.

two additional trenches (BHTs 6 and 7) along the acequia footprint. Two backhoe trenches (BHTs 3 and 4) were excavated at the northeast corner of the APE in an attempt to discover any buried features in this area.

After exposing parts of the west and east walls of the acequia using a combination of mechanical and hand excavations, CAR staff hand excavated an approximately 25- to 30-ft. section of the *Acequia Madre de Valero* (41BX8) to be impacted by construction. These hand excavations included areas to be impacted within and adjacent to the acequia. CAR also excavated two test units (TUs) in order to investigate the presence of intact deposits. One unit was set inside the acequia channel (TU 1), and another unit (TU 2) was adjacent to the outer east wall of the acequia.

CAR excavated TU 1 in arbitrary 4-in. intervals and stratigraphic levels. All soil was screened through 1/4-in. hardware cloth and all artifacts were collected. The objective of this unit was to confirm the stratigraphy of the deposits and create a freshly exposed profile. Because the unit's stratigraphy was consistent with previous findings, the remaining 23 ft. of acequia channel to be impacted was excavated by stratigraphic levels. In TU 2, CAR staff removed the top 7 in. of construction fill before excavating 24 in. below the top of the acequia's east wall. These deposits were removed in one level because the soils consisted of disturbed construction fill. Archaeologists produced measured drawings of the trench stratigraphy, including a description of soil types and artifacts within the matrix. All collected material, recorded with appropriate provenience information, was transported to the CAR laboratory for processing, analysis, and curation.

In addition to the archaeological testing, CAR completed intensive documentation of a section of the *Acequia Madre de Valero* (41BX8). Documentation included measured plans and profiles of the acequia, and photographs of the all faces and any other important feature of the structure. CAR staff used

Structure from Motion (SfM), a photogrammetry technique, in conjunction with TDS data to create georeferenced 3-dimensional structures from 2-dimensional photographic images. Structure from Motion uses an automatic feature-matching algorithm based on multiple and overlapping digital photographs to calculate camera position and scene geometry. CAR staff used 3D software Agisoft PhotoScan Professional to generate a point cloud from the digital images leading to a vector mesh and the creation of a 3D model with texture from the photographs. The photo process was consistent with standard archaeological documentation.

After completing the backhoe trenching, CAR staff monitored the demolition and site preparation work within the footprint of the new building. This involved three separate work items: monitoring the removal of asphalt paving and caliche base; monitoring of drilling related to the installation of nineteen piers; and monitoring of utility installation at the south end of the APE.

Laboratory Methods

The recovered artifacts were taken to the CAR laboratory, washed, air-dried, tagged, and stored in 4 mil, zip-lock, archival-quality bags. Materials needing extra support were double-bagged, and acid-free labels were placed in all artifact bags. Each laser printer generated label included provenience information and a corresponding lot number. The artifacts were separated by class and stored in acid-free boxes that were labeled with standard tags.

All field notes, forms, photographs, and drawings were placed in labeled archival folders. Digital photographs were printed on acid-free paper, and labeled with archival-quality page protectors to prevent accidental smearing due to moisture. CAR has provided the owner the option of retaining the artifacts once analysis is completed, curating the artifacts under a loan agreement, or donating the artifacts to CAR.

Chapter 5: Results

This chapter presents results of the investigations and discusses artifacts recovered during the fieldwork. Results are organized by field activities, including exploratory backhoe trenching, the *Acequia Madre de Valero* (41BX8) investigations, and construction monitoring. The artifacts are discussed by classification (lithics, glass, ceramics, etc.). Prior to the fieldwork, an overlay of the APE was prepared using the georeferenced 1896 Sanborn Map and the Mother of the Americas site plan. The overlay indicated that the northwest corner of the new Mother of the Americas building, namely the pier and beam foundation, would impact the *Acequia Madre de Valero* (41BX8), if extant. It was also noted the east-northeast part of the new building would be constructed over an area where three historic structures once stood (see Figure 5-1).

Exploratory Backhoe Trenching

The scope of work included five exploratory backhoe trenches (BHTs), oriented east-west, excavated within the APE. Three of the trenches bisected the projected path of the acequia: one at the south end (BHT 5) and two at the north end (BHTs 1

and 2). The remaining two trenches (BHTs 3 and 4) tested the area at the northeast quadrant of the APE (Figure 5-2). After considering the results of BHTs 1, 2, and 5, two additional trenches (BHTs 6 and 7) were excavated along the projected path of the acequia at the center and at the north end of the site (Figure 5-2).

Backhoe Trench 1

Using the 1896 Sanborn Map as a reference, the projected path of the acequia was marked with a line of string. The line was stretched from the northeast corner of the Rectory, in line with the Rectory's east elevation wall, north toward the Rivercenter Mall wall. BHT 1 was positioned 13 ft. south of the Rivercenter Mall wall, and a 24-in. wide and 12-ft. long (east-west) trench was excavated. The east and west walls of the *Acequia Madre de Valero* (41BX8) were located beneath a 10- to 12-in. layer of caliche base. While the west wall appeared to be in very good condition, the east wall was found to be heavily impacted. Backhoe Trench 1 was very shallow, but dark clayey soils were observed between the acequia walls. No artifacts were observed, and the shallow trench was left open for the duration of the fieldwork.

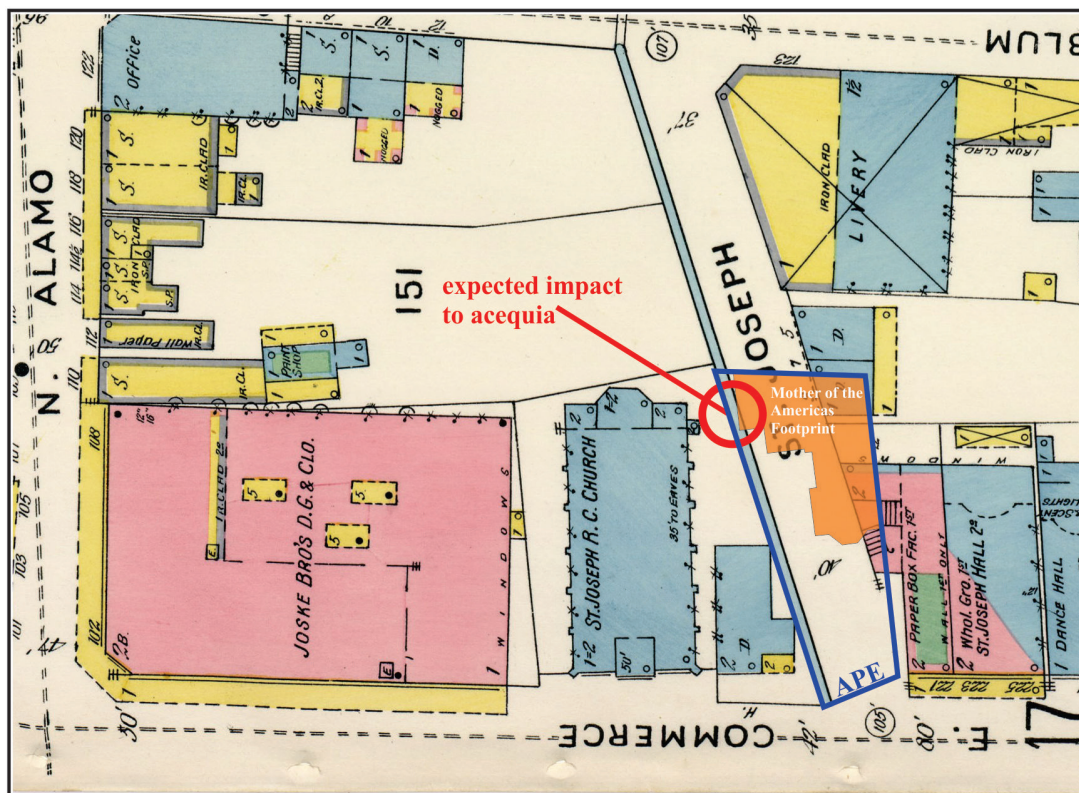


Figure 5-1. 1896 Sanborn Map with an overlay of the Mother of the Americas site plan, in orange shade; APE outlined in blue.

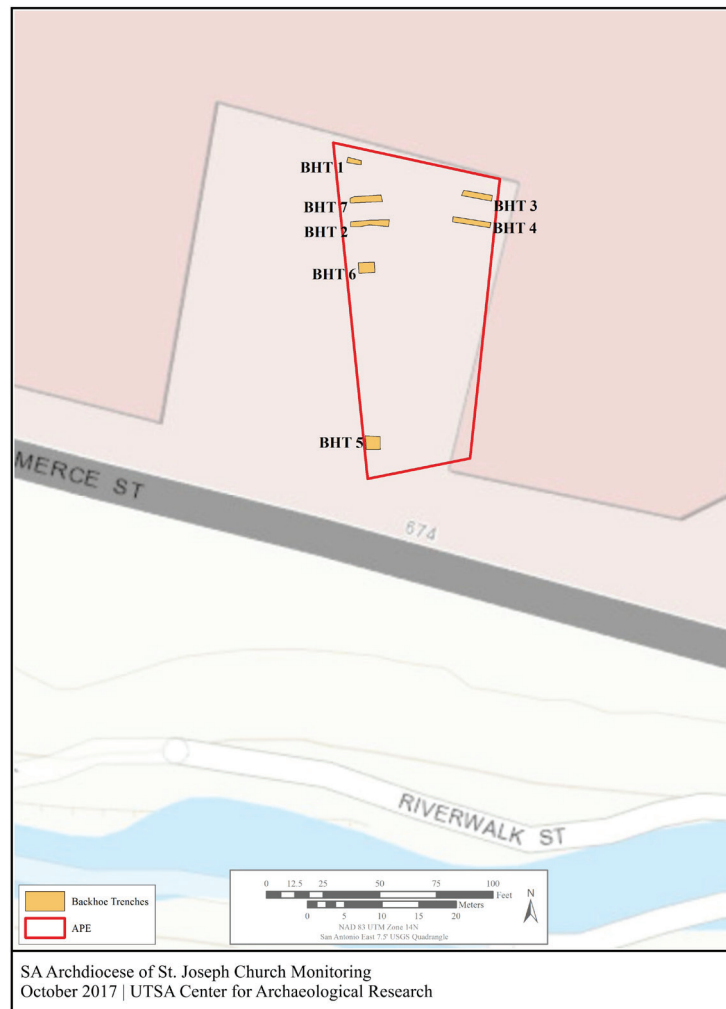


Figure 5-2. Location of backhoe trenches within APE.

Backhoe Trench 2

Backhoe Trench 2 was located between 41 and 43 ft. south of the Rivercenter Mall wall and intersected the same string line set up for BHT 1. The east-west trench was 24 in. wide and 14 ft. long. Once again, the east and west walls of the acequia were located beneath a 10- to 12-in. layer of caliche base. As in the case of the earlier discovery, the west wall of the acequia was found to be in very good condition, while the east wall was found to be heavily impacted. The fill in the channel was a dark, compact soil, with a few inclusions of unidentifiable glass, metal, and charcoal. The exposed acequia stones were cleaned off and photo documented, and the exposed channel fill was left undisturbed.

Backhoe Trench 2 was extended another 6 ft. to the east in an attempt to locate evidence of an earlier earthen channel. The trench extension began about 1 ft. away from the acequia's east wall so as not to impact the masonry. It was

then mechanically excavated to 36 in. below the surface. The top of the acequia east wall was about 16 in. below the surface, and the remaining bulk of soil was hand excavated and screened. A layer of fist-size cobbles was encountered at 24-26 in. below the surface. The cobbles were removed with a hand pick, which then exposed a 6-in. diameter ceramic clay sewer pipe. The sewer pipe ran parallel to and about 8 in. away from the acequia east wall. Removal of the pipe exposed another layer of cobbles at 36 in. below the surface, at which point the excavation ceased. The screened soils produced a large assortment of metal and glass and a variety of ceramic sherds.

Backhoe Trench 3

Backhoe Trench 3 was located in the northeast quadrant of the APE. The east-west trench was excavated to see if there were any structural remnants in this area. Backhoe Trench 3 was 3 ft. wide and 13 ft. long, and it was located 12 ft. south of the Rivercenter Mall wall. According to the

1912 Sanborn Map, the building that stood in this area had a basement. Evidence of this basement was located at 4 ft. below the surface, as the excavation proceeded through a loose layer of sand and construction debris that caused the trench walls to be unstable. Trenching continued east-west and stopped when a wall footing was encountered. Aside from construction debris, no cultural material was observed. The trench was photo documented then backfilled.

Backhoe Trench 4

Like BHT 3, BHT 4 was located at the northeast quadrant of the APE and excavated east-west to see if there were any structural remnants in this area. This backhoe trench was located 24 ft. south of the Joske's wall and was 3 ft. wide and 18 ft. long. There were no structures identified in this area on the 1912 Sanborn Map. The area was at the rear of a lot and building that fronted East Commerce Street. Instead of encountering intact deposits, trenching was through a 4-ft. layer of dark clayey, heavily disturbed, rubble fill. It seemed as if this area was used as a dump. A few negligible fragments of unidentifiable construction material was documented, but none was collected. The trench was photographed then backfilled.

Backhoe Trench 5

Backhoe Trench 5 was the third east-west backhoe trench excavated along the path of the acequia, but it was placed at the far south end of the APE (Figure 5-2). The backhoe trench was just east of the Rectory's entrance and 14 ft. north of the street-side entry gate. After breaking the concrete sidewalk with an air hammer, a 6-ft. section of concrete sidewalk was mechanically removed. The concrete walk lacked rebar and a caliche base. Removal of the walk exposed what turned out to be the acequia fill, a dark brown soil with some gravel inclusions. The top 18 in. of fill was removed with a small excavator, and another 2 in. of fill was hand-excavated but not screened. A dark clayey soil with inclusions of charcoal flecks was encountered at 20 in. below the surface.

In an effort to locate the acequia east wall in this area, a 4-x-4 ft. section of asphalt pavement was mechanically removed east of and adjacent to BHT 5. Removal of the asphalt exposed a layer of caliche base and a section of the east wall underneath. There was a 3-in. gap between the acequia wall and the stone curb. The acequia channel was then mechanically excavated to 24-26 in. below the surface. Negligible fragments of glass and metal were documented, but none was collected.

Continued hand excavation in BHT 5 broke through a dark clayey soil with some bits of charcoal imbedded. The soil changed at 31.5-33 in. below the surface. The floor was a light

colored, gritty, sandy soil with small cobble inclusions and small areas with fragmented artifacts imbedded in the floor. At this point, the excavated soils were screened, and a high artifact density was noted, consisting mostly of unidentifiable glass and metal fragments. Hand excavation concluded between 36 and 39 in. below the surface, with the floor being very uneven. The exposed floor was cobble-lined, with the cobbles imbedded in a plaster-like material or caliche clay, and there were no visible artifacts. After consulting with the City Archaeologist, CAR executed a probe of the cobble-lined floor. The probe was a 9-in. diameter section along the south wall of the floor, opposite to the stone curb. The floor consisted of one layer of cobbles that were generally fist-size and smaller. CAR staff did not screen these soils, but collected two artifacts imbedded in the cobbles. One item, thought to be a coin, turned out to be a copper shank button. The probe continued to 52 in. below the surface and through a sterile layer of caliche without any additional finds.

Backhoe Trench 6

After considering the positive results from BHT 1, BHT 2, and BHT 5, it was decided that two additional trenches would be excavated along the path of the acequia. Backhoe Trench 6 was located at the northeast corner of the Rectory. A 4-x-6 ft. section of asphalt and sidewalk was removed. The top of the acequia east wall was exposed beneath a 12-in. layer of asphalt and caliche base. Unlike the north-end wall, this section of the east wall was in very good condition. Only the profile of the acequia west wall was visible because it was used as a footer for an early masonry perimeter wall. Approximately 12 in. of dark silty soil was removed from between the east and west walls (Figure 5-3). The soils were not screened, and there were no signs of cultural material.

Backhoe Trench 7

This additional backhoe trench was oriented east-west and located 29-32 ft. south of the Joske's wall. The tops of the acequia west and east walls were exposed beneath a 12-in. layer of caliche base. As in the case of BHT 1 and BHT 2, the west wall was found to be in good condition, while the east wall was found to be seriously impacted.

The location of BHT 7 was chosen because the overlay of the construction specifications onto an 1896 Sanborn Map indicated that the construction would impact the acequia precisely at this point. In addition, the north-south and east-west concrete support beams would impact a 20-ft. section of the acequia east wall between BHT 1 and BHT 7. Given these circumstances and with the concurrence from the City



Figure 5-3. BHT 6, note acequia west and east walls (facing west).

Archaeologist, it was decided to fully expose the acequia walls and original channel in order to determine the extent of the proposed impact.

A 3-ft.-wide and 4-ft. long area between the west and east walls of BHT 7 was hand excavated to 33 in. below the surface, but the soil was not screened. Another 6 ft. to the east of the acequia east wall was mechanically excavated to about 33 in. below the surface. The dark clayey soils located 33-36 in. below the surface and in the channel were excavated and screened, and artifacts were recovered. Light colored, sandy gritty sediment was exposed at 36 in. below the surface and excavated to 39 in. (Figure 5-4). Additional artifacts were collected from this last level. At 39 in. below the surface, the exposed caliche, cobble floor was uneven and appeared void of cultural material, at which point excavation ceased.

Archaeologists monitored as contractors mechanically removed the caliche base over the east and west walls between BHT 7 and BHT 1. This allowed for an unrestricted view of the east and west walls of the acequia for a length of about 23 ft. (Figure 5-5). As previously observed in BHT 1, BHT 2, and BHT 7, the west wall was found to be in very good condition, but the east wall was heavily impacted, possibly due to recurring grading of the old Damifino Street, renamed St. Joseph Street (c.1896).

Acequia Madre de Valero (41BX8) **Investigations**

As noted above, CAR staff fully exposed the north end of the acequia walls and channel in order to document the acequia and determine the extent of the proposed impact. For this purpose, a 23-ft. section of channel between the west and east walls of the acequia was designated Area A (Figure 5-6). In addition, a 23-in. wide and 23-ft. long area along the outer edge of the east wall was designated Area B.

Acequia North End: Clearing Overburden and Backfill Material

As shown in the plan view, the approximately 9 ft. south of the Rivercenter Mall wall was left unexcavated along the path of the acequia (Figure 5-6). South of that point, CAR staff hand-excavated through the caliche base overburden and construction fill to the top edge of deposits on the acequia floor. CAR staff had already determined where the top edge of the floor was based on the BHT 7 north and south wall profiles. Once exposed, this top layer of sediments over the acequia floor was excavated and screened. It was hoped that these silty sediments would contain artifacts that might indicate when the acequia had been last used and/or backfilled. A large sample of artifacts from discrete deposits could also have significant research potential. Due to in-field



Figure 5-4. BHT 7, acequia floor at 36 in. below the surface (bs), with imbedded artifacts (facing north).

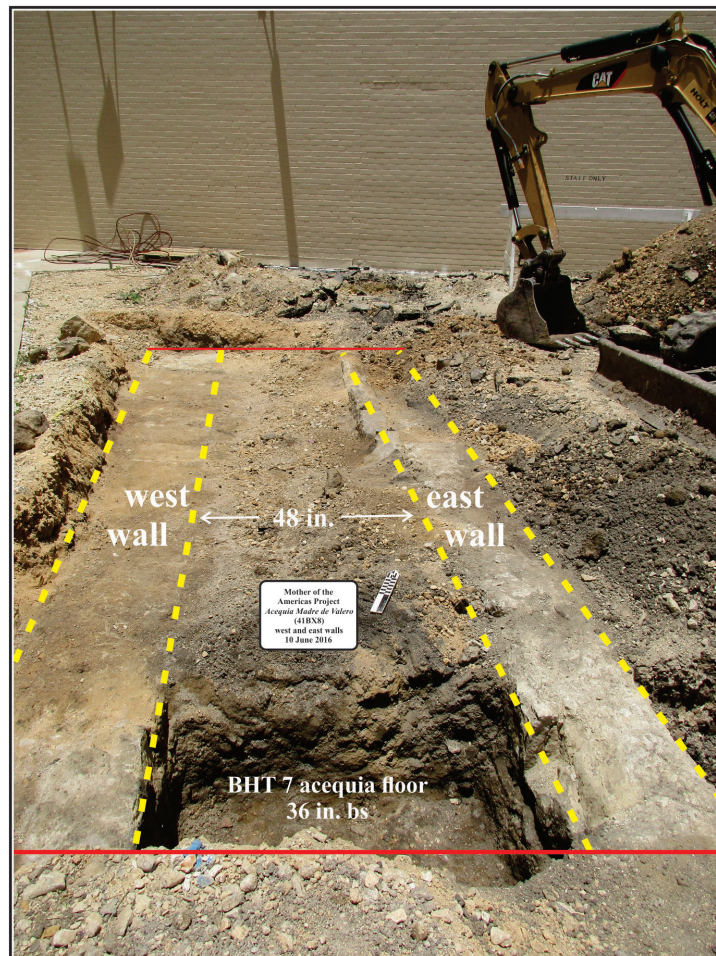


Figure 5-5. Acequia west and east walls exposed (view north).

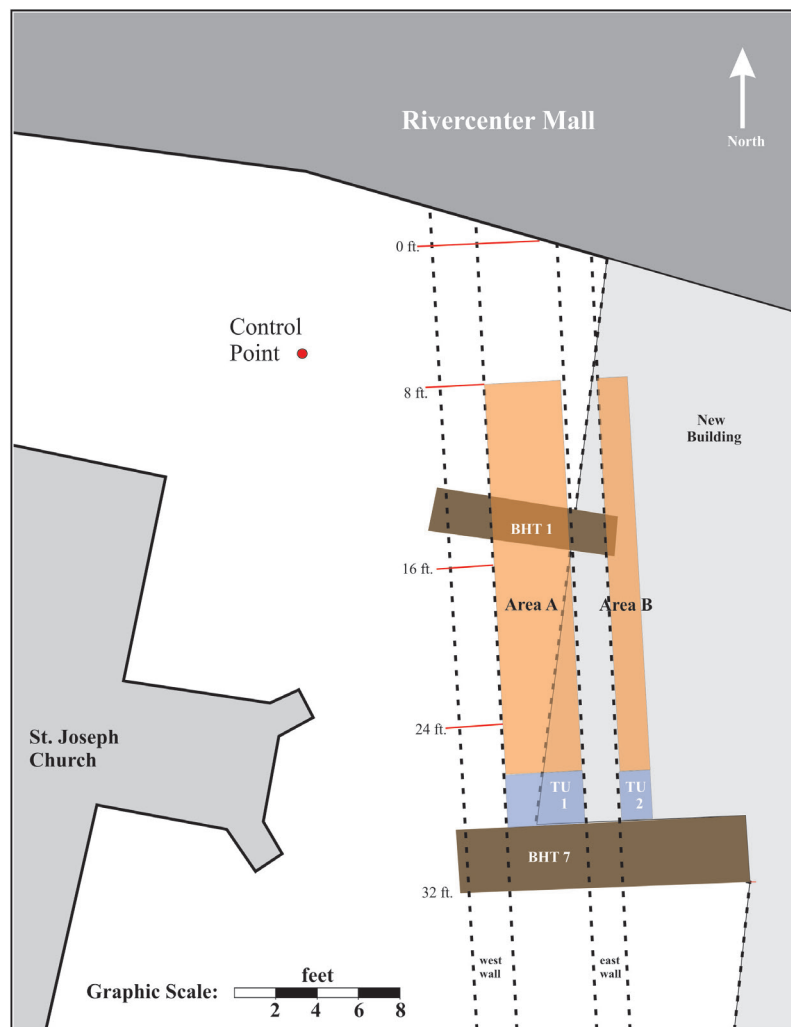


Figure 5-6. Plan view of Area A and Area B.

time constraints, it was decided to recover the sediments in bulk and screen them at the CAR lab. In the meantime, two test units (TUs 1 and 2) were located adjacent to BHT 7, in order to systematically excavate the channel fill and along the east side, outside of the channel. In both cases, the plan was to excavate and screen the dark clayey fill in stratigraphic levels in order to determine the extent and nature of the deposition.

Test Unit 1

Test Unit 1 (TU 1) was located inside the acequia channel, 48 in. north-south and 48 in. wide, from the east to the west wall, or the width of the acequia. The unit was excavated in three levels, and the top edge of the acequia's west wall was used as a datum. Level 1 was excavated to 7 in. below the top edge of the acequia west wall, and CAR staff recovered a mix of bone, ceramic, glass, brick, and unidentifiable metal fragments. Level 2 was excavated to 18.5 in. below the top edge of the acequia west wall. Unidentifiable metal

fragments, a clay marble, and a ceramic doll part were recovered from Level 2. Limestone fragments and bits and pieces of plastic were also noted, but none were collected. Level 3 was excavated to 22 in., which exposed a cobble-lined floor in a gritty yellowish soil. Glass, metal, ceramic sherds, and buttons were recovered from this last level. A layer of sediment containing artifacts overlay the cobble-lined acequia floor. Notably, the unit levels correspond with strata used in the discussion of artifacts.

Test Unit 2

Test Unit 2 (TU 2) was also placed north of BHT 7, but along the exterior side of the acequia east wall (see Figure 5-6). The unit was 24 in. wide and 48 in. long. After removing the top 7 in. of fill, TU 2 was excavated in one continuous level to 24 in. below the top edge of the acequia east wall. The recovered artifacts consisted of buttons, a marble, glass shards, bone, and ceramic. The soils were mixed and

appeared to be construction fill, which was confirmed by the presence of a clay sewer line at the bottom of this unit. The sewer line was aligned north-south and parallel to the outer edge of the acequia east wall.

Area A: Acequia Channel

As noted, because 23 ft. of the acequia had the potential to be impacted by planned construction, the fill excavated from the channel and outer edge of the east wall was removed in bulk. Removal of these soils and cleaning of the acequia walls allowed for a clear view of the structure's features and the mode of its construction. The acequia channel was designated Area A (48 in. wide and 23 ft. long), and the outer edge of the acequia east wall was designated Area B.

Based on the backhoe trench and test unit excavations, it was clear that the 1- to 2-in. layer of sediment above the cobble floor of the acequia held an abundance of artifacts. The cultural material are most likely remnants of household trash left behind when the acequia was last cleaned. As noted

in Chapter 2, the use of the acequia for discarding trash was a constant problem by the late nineteenth century and early twentieth century (Cox 2005:69). Over the years, the settling refuse became part of the buildup of sediments. Sixteen four-quart bags of sediment, representing all remaining sediments, were recovered from Area A and returned to the CAR lab for screening and processing.

Area B: Outer Edge of Acequia East Wall

Excavations (24 in. wide and 23 ft. long) along the outer edge of the acequia east wall removed a dark clay, blocky fill. This area represented the below-grade fill of historic Damifino Street, later renamed St. Joseph Street (see Figures 2-4 and 2-5, 1892 and 1896 Sanborn Maps). Figure 5-7 shows the BHT 7 road fill material (20-39 in.) prior to caliche and asphalt paving. These soils were not screened, but artifacts were collected as the soils were excavated. An assortment of glass shards, ceramic sherds, and bone fragments were recovered and are discussed in the artifacts section.

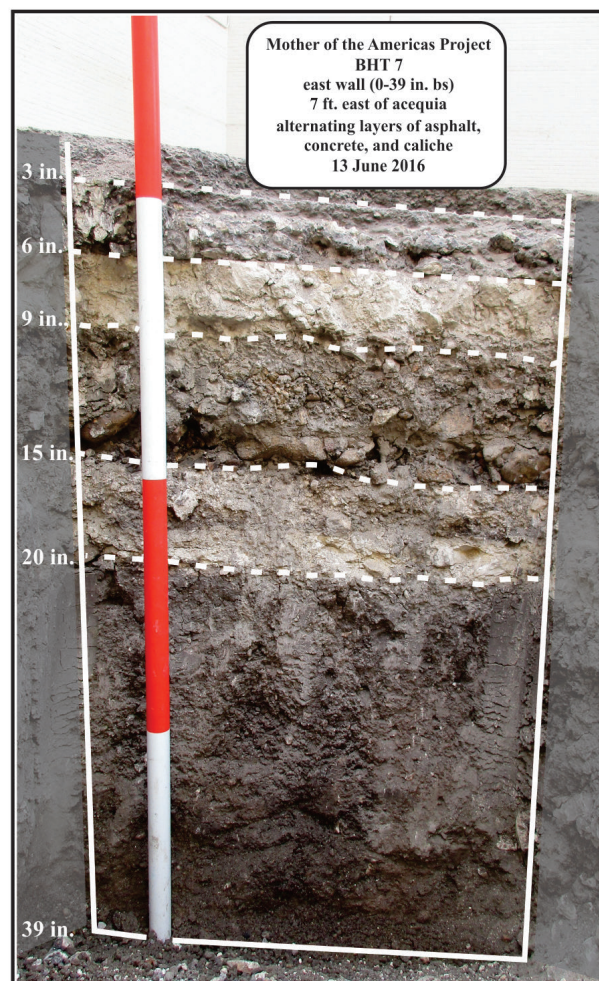


Figure 5-7. BHT 7, east wall profile (0-39 in. below the surface); note fill episodes.

Prior to clearing the area for site preparation work by the general contractor, CAR staff spent time documenting the *Acequia Madre de Valero* (41BX8). Photo documentation, acequia profiles and plan views, and TDS/GIS mapping was completed in mid-July 2016. Additional artifacts were recovered as the acequia floor and walls were cleaned prior to documentation. The recovered artifacts consisted of ceramic, bottle glass, construction material, and bone. Figure 5-8 is based on a series of measured drawings produced on site.

With the exception of the east wall, the 23-ft. section of acequia exposed at the north end of the APE was found to be in good condition. The section of the east wall was heavily impacted, and the mode of construction and material seemed very dissimilar to the west wall. Initial speculation was that the east wall had been heavily impacted by years of neglect, as it served as a street curb. This idea gave way to the realization that the mode and material used in constructing this part of the east wall was distinct. Figures 5-8 and 5-9

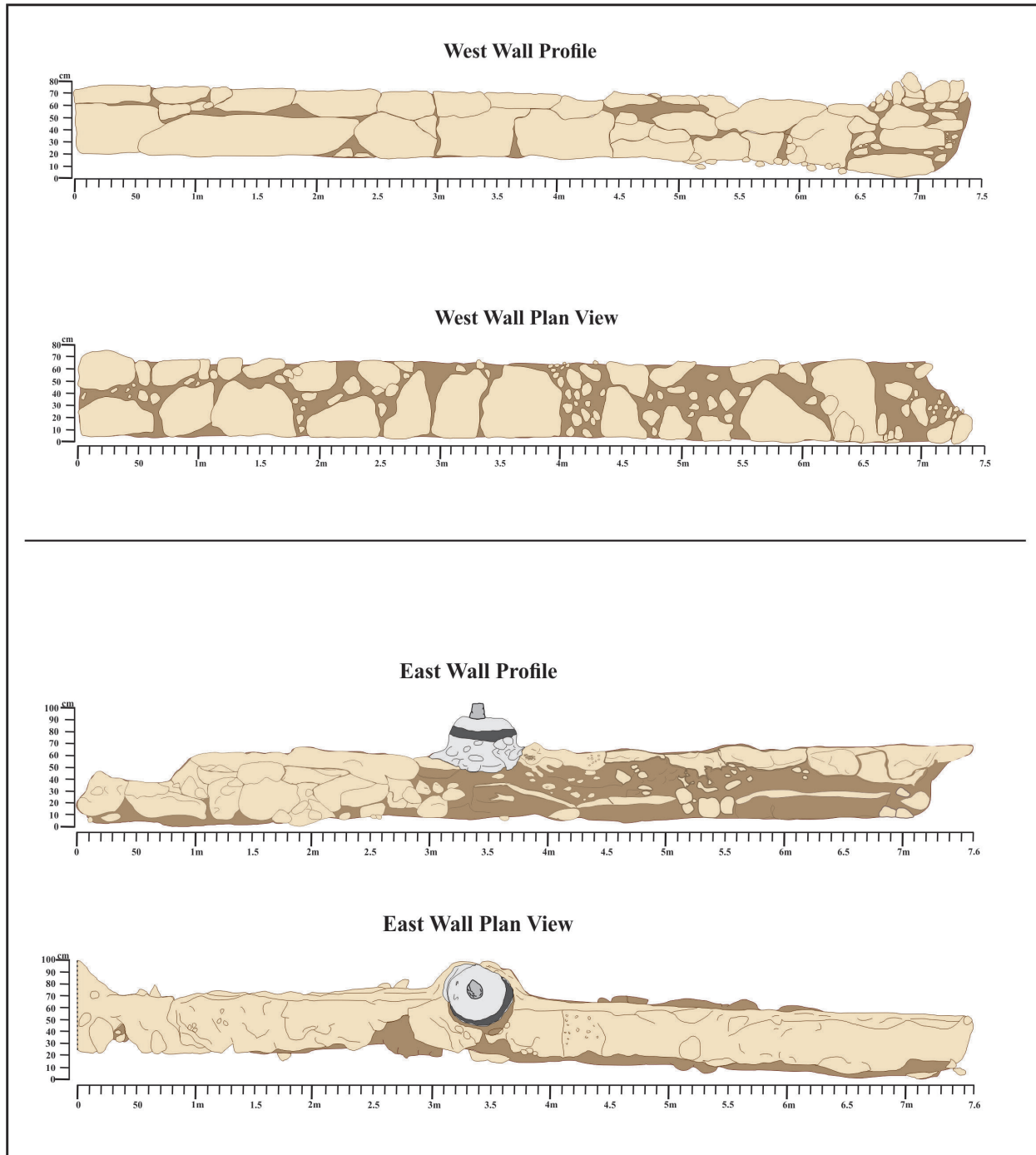


Figure 5-8. Area A, Acequia Madre de Valero (41BX8), wall profiles and plan views.

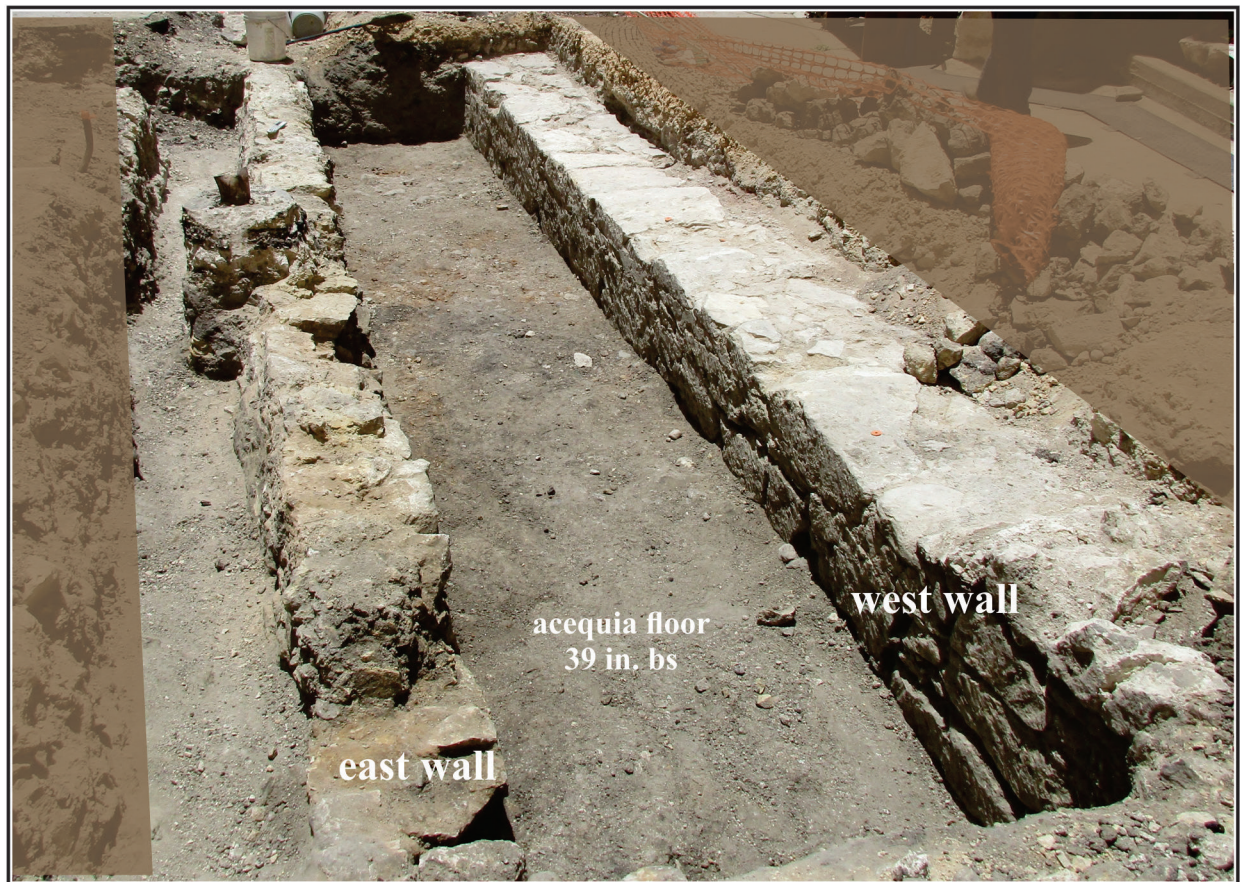


Figure 5-9. Exposed section of the Acequia Madre de Valero (41BX8); note dissimilarities between the walls and the concrete support installed through the east wall at top left (bs=below the surface). Periphery shaded to focus on acequia (view south).

show how dissimilar the masonry construction is between the west and east walls. Another observation is that the first course of stones (bottom) was cut limestone blocks, similar to the west wall stones, which were all cut limestone.

It seems evident that cut limestone blocks were used to construct both walls, and at some point, the east wall stones were replaced with stone rubble construction (Figure 5-9). In contrast, the 5-ft. section of acequia east wall at the south end, just north of East Commerce Street, was found to be in good condition and similar in construction to the west wall. This section of the acequia east wall is virtually undisturbed beneath a layer of caliche base and pavement. As noted earlier, most of the west wall in the same areas is extant since it was used as a footing for the east elevation perimeter wall of the Rectory.

Monitoring Results

At the conclusion of the acequia investigations, the site work required three separate monitoring tasks: monitoring the removal of asphalt paving and base material, and the excavation and extraction of any abandoned masonry wall

footings and utilities; monitoring of drilling related to the installation of 19 foundation piers, between 18 and 30 in. in diameter, to depths of between 30 and 36 ft.; and monitoring of trenching related to the installation of utilities at the south end of the APE. Trenching for the East Commerce Street right-of-way and into the street was completed as a separate archaeological project. The results of that project are presented in a CAR technical report (Figueroa and Zapata 2017).

Demolition Monitoring

Demolition monitoring included the removal of the parking lot and old wall footers/foundations as well as pier drillings. Monitoring of these events was completed in two parts, starting with the demolition of the asphalt pavement. In addition, 14 ft. of the extant acequia east wall was removed to make way for a pier and beam foundation. It is important to note that the east wall in this area was in a state of disrepair, a concrete pole base had been installed through the wall, and the masonry construction was very dissimilar to the west wall. A few artifacts were recovered near the acequia east wall during the process of dismantling the wall (Figure 5-8).

A concrete pier and beam foundation was planned for the new building, and the piers (n=26) were required to be drilled to between 30-40 ft. deep. Based on the results of backhoe trenching and the Sanborn Maps, it was apparent that remnants of wall footing were extant within the northeast quadrant of the APE. Evidence of backfilling of a basement was observed in BHT 3, and the possible backfilling of another basement or cellar was observed in BHT 4. Because the soils were loose and the presence of old wall footings, the area had to be excavated to depths of between 5-8 ft. to remove the loose fill and stones. Monitoring of this work continued between late July and late August 2016. Excavation did uncover and remove additional wall footings and two basements. Aside from construction debris, no intact cultural deposits were observed.

Pier drilling followed soon after the area was backfilled with caliche base and compacted. Only 19 of 26 piers were monitored. The seven piers that were not monitored were located at the north end of the APE, in an area that had already been tested. This work was completed between late September and early October 2016. Drilling in this area was uneventful and did not locate anything of note. The exposed acequia walls were draped with commercial-grade landscape fabric and backfilled with a 4- to 6-in. layer of sand.

Utility Trench Monitoring

Trenching and installation of water lines at the far southwest end of the APE, off East Commerce Street, was completed in February 2017. A 4-ft. wide and 8-ft. long trench was excavated along the east wall of the acequia, and a 12-in. diameter, east-west tunnel was hand-excavated approximately 1 ft. below the first course of acequia stones. The opposite side of the acequia, along the west wall, was also excavated in order to continue the tunnel beneath the acequia. A few artifacts, such as animal bone and unidentifiable metal, were observed, but none were collected.

Artifacts

A total of 11,890 artifacts were recovered, with the majority of the material consisting of glass shards (n=8,478 or 53.4 lbs.), metal (n=327 or 36.2 lbs.), construction material (n=581 or 18.3 lbs.), and ceramic sherds (n=912 or 13.3 lbs.; see Table 5-1). Eleven samples, mostly charcoal, were also recovered for potential future analysis. Among the artifacts were assorted European wares, buttons, glassware, bone toothbrush fragments, and animal bone. Interestingly, two of the toothbrush fragments had makers' marks, but only one was discernable. An 1893 Indian Head Penny and a ca.1866-1883 shield nickel were also recovered. The range of dates for the artifacts appears to be mid-to-late nineteenth century. The recovered artifacts were bagged in provenience-specific field sacks (FS) and returned to CAR..

Twenty-five field sacks (FS) were recovered from six areas within the APE: BHT 5, BHT 7, TU 1, TU 2, Area A, and Area B. Based on the excavations of TU 1 and BHT 5, as well as noted parallels in BHT 7 and Area A, five strata were identified and considered representative of the acequia channel deposits in the APE (Figure 5-10).

The five acequia-related strata illustrated in Figure 5-10 were identified on the south wall profiles, at either end of the acequia channel. Stratum 1 and Stratum 2 consist of the concrete/asphalt pavement and sand/caliche base, respectively. The depth of Strata 1 and 2 at the north end was 12 in. (asphalt pavement and caliche base); the depth at the south end was only 6 in. (concrete sidewalk and sand base). Seventy-one artifacts were recovered from Stratum 2 (caliche base deposit) in BHT 7. The material consisted primarily of ceramic (n=17), glass (n=36), and construction (n=16).

Table 5-1. Summary of Recovered Artifacts by Classification

Class	Count	Percent of Total	Weight (g)	Weight (lbs.)
Lithics	257	2.20%	294.2	0.6
Organic	1,176	9.90%	2,755.30	6.1
Ceramics	912	7.70%	6,045.60	13.3
Personal	148	1.20%	191.1	0.4
Glass	8,478	71.30%	24,228.20	53.4
Construction	581	4.90%	8,303.30	18.3
Metal	327	2.80%	16,425.20	36.2
Samples	11	0.10%	478.9	1.1
Total	11,890	100.00%	58,721.70	129.4

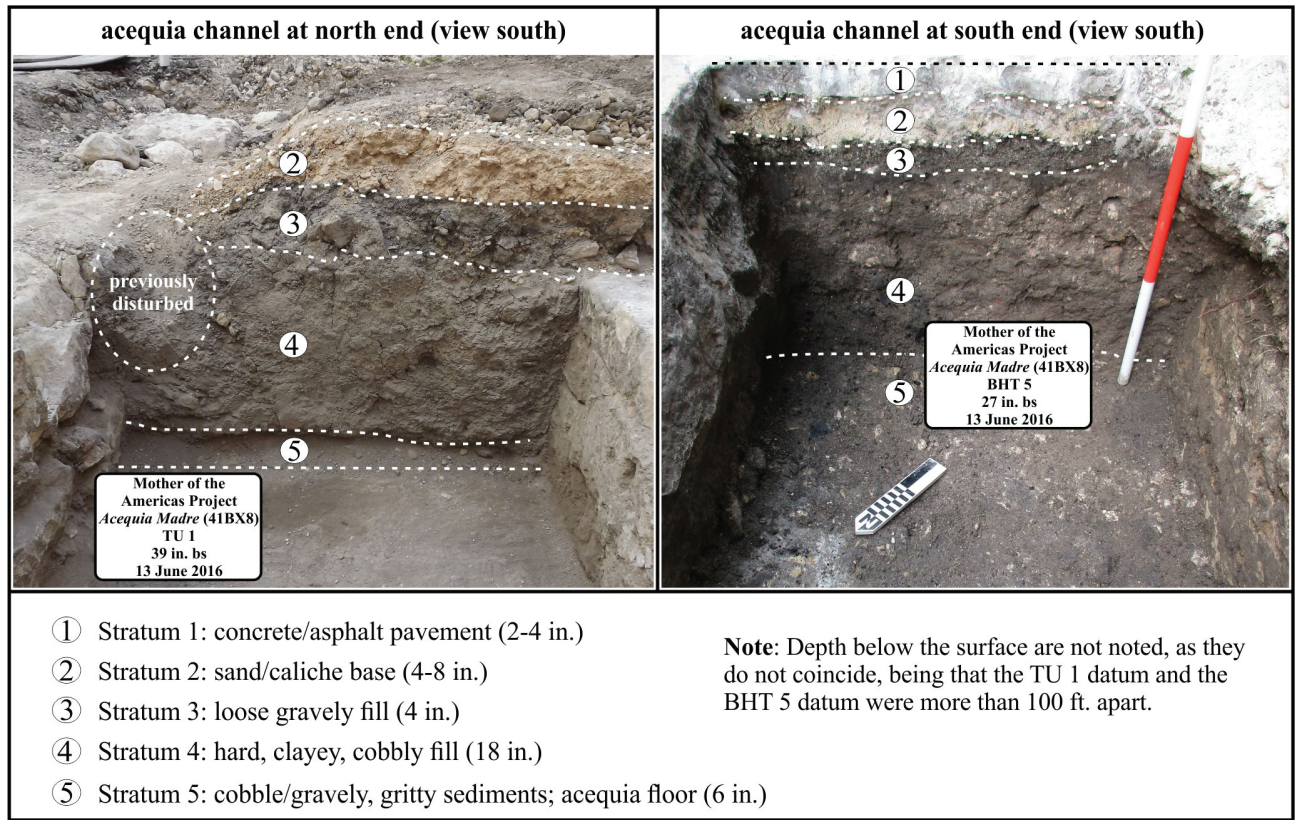


Figure 5-10. Acequia channel, south wall profiles of TU 1 (left) and BHT 5 (right); identified five strata, with TU 1 missing Stratum 1 (previously removed) and BHT 5 missing Stratum 5 (unexcavated in this photo).

Stratum 3 was approximately 4 in. thick and consisted of a loose, gravelly fill with noticeable inclusions of charcoal. Stratum 4 was approximately 18 in. thick and consisted of a hard clayey, cobbly fill. Stratum 5, the acequia sediments, is approximately 6 in. thick and consisted of a layer of cobbles, followed by a layer of gravelly, gritty sediment with a heavy concentration of artifacts.

The 25 field sacks are listed in Table 5-2, which makes note of the corresponding stratum and description. With the exception of FS 12 and FS 14, the field sacks were secured from strata associated with the acequia channel. Artifacts from TU 2 were excluded from discussion as they were recovered in bulk.

The following discussion of the recovered artifacts excludes Stratum 1 (concrete/asphalt pavement) and Stratum 2 (sand/caliche base). Field sacks 12 and 14 are also excluded as these were recovered from TU 2 and Area B outside of the acequia channel. Based on artifact counts, Stratum 5 accounted for 96.8 percent of the recovered artifacts (Table 5-3). The Stratum 5 material was recovered from a 6-in. layer of cobble/gravelly gritty sediments, which likely represent residual trash left behind after the acequia was last cleaned. In Stratum 5, the percentages for all classes of artifacts exceeded 90 percent with the exception of metal (82.5 percent).

Lithics

The majority of lithics were recovered from Stratum 5 (n=251; Table 5-4). Most of these lithics were debitage, which is material created during the production of stone tools. Only a small amount of burned rock and one core were recovered from the deposits. Other rock consisted of unmodified stone and sandstone fragments.

Organic Material

As noted, more than 90 percent of the organic material was from Stratum 5 (acequia sediments). The types of organic material recovered from excavations are listed in Table 5-5. These materials included a large collection of faunal bone (n=815). Snail shell (n=266) accounted for the second highest number of organic material, with all shell recovered from Stratum 5.

CAR staff completed an analysis of the faunal bone, but less than 10 percent of the collection was identified to its taxon (Table 5-6). The difficulty in identification was in large part due to the fractured and fragmentary condition of the bone. An analysis of the bone recovered from the acequia sediments is presented in the Table 5-6, which summarizes the entire faunal collection by taxon from the acequia floor and includes material from Area B and TU 2.

Table 5-2. Field Sacks and Associated Stratum

FS	Provenience	Stratum	Description
1	BHT 2	4	Hard clayey, cobbly fill
2	BHT 7	5	Cobble/gravelly, gritty sediment
3	BHT 2	4	Hard clayey, cobbly fill
4	BHT 7	5	Cobble/gravelly, gritty sediment
5	BHT 5	5	Cobble/gravelly, gritty sediment
6	BHT 5	5	Cobble/gravelly, gritty sediment
7	BHT 5: Probe at S end	5	Cobble/gravelly, gritty sediment
8	TU 1, Level 1	3	Loose gravelly fill, with charcoal inclusions
9	TU 1, Level 2	4	Hard clayey, cobbly fill
10	TU 1, Level 2	5	Cobble/gravelly, gritty sediment
11	TU 1, Level 3	5	Cobble/gravelly, gritty sediment
12	TU 2, Level 2	4	Hard clayey, cobbly fill
13	Area A, Bulk Sediment	5	Cobble/gravelly, gritty sediment
14	Area B	4	Hard clayey, cobbly fill
15	Acequia Floor	5	Cobble/gravelly, gritty sediment
16	BHT 7	5	Cobble/gravelly, gritty sediment
17	Acequia Floor	5	Cobble/gravelly, gritty sediment
18	Acequia	5	Cobble/gravelly, gritty sediment
19	Acequia S Wall	4	Hard clayey, cobbly fill
20	Surface (Area A)	unknown	
21	BHT Monitoring (Area A)	unknown	
22	NE Corner	2	Sand/Caliche base, 4- to 8-in. layer
23	TU 1 N Profile, Level 1	3	Loose gravelly fill, with charcoal inclusions
24	TU 1 N Profile, Level 2	5	Cobble/gravelly, gritty sediment
25	TU 1 N Profile, Level 3	5	Cobble/gravelly, gritty sediment

*Note: majority of artifacts collected from Stratum 5 (14 of 25 FS); FS 12 and FS 14 from street-side of acequia.

Table 5-3. Summary of Recovered Artifacts from Strata 3, 4, and 5 (Excludes FS 12 and FS 14)

Stratum	Lithic	Organic	Ceramic	Glass	Metal	Construction	Personal	Total
3	2 (0.8%)	14 (1.3%)	2 (0.2%)	51 (0.6%)	13 (4.2%)	15 (2.6%)	2 (1.4%)	99
4	3 (1.2%)	68 (6.2%)	29 (3.5%)	28 (0.3%)	41 (13.3%)	8 (1.4%)	3 (2.2%)	180
5	251 (98.0%)	1,014 (92.5%)	807 (96.3%)	8,320 (99.1%)	255 (82.5%)	553 (96.0%)	135 (96.4%)	11,336
Total	256	1,096	838	8,400	309	576	140	11,616

Table 5-4. Inventory of Recovered Lithic Types by Stratum

Lithic Type	Stratum 3	Stratum 4	Stratum 5	Total
Burned Rock	0	0	6	6
Cores	0	0	1	1
Debitage	0	3	181	184
Other Rock/Unknown	2		63	66
Total	2	3	251	256

Table 5-5. Inventory of Recovered Organic Material by Stratum

Organic Type	Stratum 3	Stratum 4	Stratum 5	Total
Coal	0	0	1	1
Faunal Bone	14	69	732	815
Shell	0	0	266	266
Total	14	69	999	1,082

Table 5-6. Faunal Collection by Taxon

Taxon	Common Name	Count	Weight (g)	Weight (oz.)
Actinopterygii	bony fish	14	5.17	0.18
<i>Gallus gallus</i>	chicken	4	2.11	0.07
<i>Meleagris gallopavo</i>	turkey	1	1.42	0.05
Small Aves	-	8	1.07	0.03
Medium Aves	-	16	8.72	0.31
Large Aves	-	1	3	0.11
Sylvilagus	rabbit	3	0.59	0.02
Geomys	gopher	1	0.53	0.02
Rodentia	rodent	11	1.52	0.05
<i>Rattus rattus</i>	rat	1	0.05	0
<i>Didelphis virginiana</i>	opossum	1	0.22	0.01
<i>Felis catus</i>	domestic cat	2	1.68	0.06
Artiodactyla	pig	1	7.34	0.26
<i>Sus scrofa</i>	wild boar	9	35.6	1.26
<i>Bos taurus</i>	cow	2	116.67	4.47
<i>Equus</i>	horse	9	126.19	4.45
Small Mammal	-	9	2.03	0.07
Medium Mammal	-	3	2.76	0.09
Large Mammal	-	134	187.15	6.6
Very Large Mammal	-	196	2022.89	71.36
Unidentified	-	1	0.28	0.01
Indeterminate	-	481	196.83	6.94

Table 5-7 summarizes the faunal analysis of animal bone recovered from the acequia channel in Strata 3, 4, and 5. Results of the faunal analysis reveal a variety of meat processing methods. For example, an analysis of the saw marks can distinguish between hand-sawn and machine-cut bone. Irregular patterns in the cut lines can be attributed to hand-sawn bone, as opposed to a uniform, evenly-spaced pattern that is machine-cut (Beishaw 2013:106). Interestingly, unmodified bone (n=635) made up the majority of the faunal collection and approximately 14 percent (n=115) of the bone recovered from the acequia sediments (Stratum 5) were machine-cut. This, however, may be a result of the poor preservation and fragmented material, making it difficult to discern modifications after deposition in the acequia channel.

Ceramics

Although the collection of ceramics from Strata 3, 4, and 5 was varied, it was dominated by European wares (n=805 or 95.5 percent; Table 5-8). In Stratum 5 (acequia sediments), 94.9 percent of the recovered ceramics were European wares (n=697). A single Native Ware sherd, a bone-tempered Goliad Ware, was recovered from Stratum 5, as were 14 sherds of

assorted Spanish Colonial origin, and 22 assorted fragments of pipes, figurines, tile, and flowerpots. The small sample size of Native and Spanish Colonial ceramics suggests an extended use-life and subsequent final discard of these vessels. It is possible these sherds were left in place during cleaning events over the years. In addition, Spanish Colonial wares were produced well into the nineteenth century (Fox and Ulrich 2008:39) but apparently were not in common use. Locally, an ever-increasing trend towards English wares began during the second decade of the nineteenth century (Figueroa and Mauldin 2005:90). This would explain the high density of mid-to-late nineteenth-century European ware sherds, as well as an early twentieth-century abandonment of the acequia (Cox 2005:67-69). A sample of the recovered ceramics are presented in Figures 5-11, 5-12, and 5-13.

Personal

One hundred and forty personal items were recovered from Strata 3, 4, and 5, with 75 percent of these being shell and bone buttons (n=105; see Table 5-9). Buttons made up 76.3 percent (n=103) of the total for Stratum 5. Among the

Table 5-7. Description of Recovered Animal Bone (Excludes FS 12 and FS 14)

Description	Stratum 3		Stratum 4		Stratum 5		Total Count	Total Weight (oz)
	Count	Weight (oz)	Count	Weight (oz)	Count	Weight (oz)		
Chopped	0	0	0	0	2	0.9	2	0.9
Cut marks	0	0	1	0.2	3	0.1	4	0.2
Machine cut and shallow cut marks	0	0	0	0	4	1.1	4	1.1
Hand sawed	0	0	0	0	9	1.6	9	1.6
Machine cut, burned	0	0	0	0	9	0.2	9	0.2
Burned	0	0	0	0	50	0.6	50	0.6
Machine cut	9	1.7	33	8.8	60	10.6	102	21
Unmodified	5	0.1	35	3.6	595	28	635	31.8
Total	14	1.8	69	12.6	732	43.1	815	57.4

Table 5-8. Ceramics Recovered from Acequia Channel (Excludes FS 12 and FS 14)

Description	Stratum 3	Stratum 4	Stratum 5	Total
Native	0	0	1	1
Spanish Colonial	0	1	14	15
European	4	104	697	805
*Other Ceramics	0	0	22	22
Total	4	105	734	843

* Includes fragments of pipes, figurines, tile, and flowerpots.



Figure 5-11. Native Ware and Spanish Colonial ceramic sherds; this was the only Native American sherd recovered.



Figure 5-12. European Earthenware, Blue Edgeware.



Figure 5-13. European Stoneware and Ironstone.

Table 5-9. Personal Items (Excludes FS 12 and FS 14)

Personal Item Type	Stratum 3	Stratum 4	Stratum 5	Total
Buttons/Fasteners	1	1	103	105
Coins	0	0	2	2
Jewelry	0	0	4	4
Other Personal Items	1	0	14	15
Toys	0	2	12	14
Total	2	3	135	140

artifacts were toys (marbles and dolls parts), two coins, and bone toothbrush fragments (n=6). The toy marbles are of late nineteenth-century origin (Fox et al. 1997:107-110), as are the doll parts (Nichols 2015:37), and toothbrush handles (Mattick 2010:16-18). Excavations also recovered an 1893 Indian Head Penny and a ca.1866-1883 shield nickel. The temporal range of these artifacts spans from the mid-to-late nineteenth century. Some of the unique and most interesting personal items are shown in Figures 5-14 to 5-17.

Glass

In terms of count and weight, glass was the most abundant artifact recovered during the excavations. A total of 45.9 pounds of glass shards (n=8,392) were collected. Forty pounds were container/vessel shards (n=7,032), and there was a large number of flat glass shards (n=902), most likely window glass (Table 5-10). Chimney glass (n=429), identified as clear thin, curved fragments, was the third largest number of shards



Figure 5-14. Agate marble, hand-cut, mid-to-late nineteenth century.



Figure 5-15. Glass, Peppermint Swirl marble, hand-made, late nineteenth to early twentieth century.

collected in Stratum 5. The chimney glass is attributed to oil lamp shades that were common throughout the nineteenth century (McKenzie et al. 2016:91). The largest number of glass shards were of container glass (n=6,969). In terms of color, aqua (n=481), olive (n=728), and brown (n=501) glass shards were among the most numerous within Stratum 5. Glass containers in these three colors were common in the nineteenth century (McKenzie et al. 2016:91-94).

Construction

The amount of recovered construction material was low (n=543), comprising only 4.6 percent of the artifact total. Slate (n=287) and asphalt (n=123) were the most numerous, which likely relate to roofing and road material, respectively. The rest of the construction material consisted of typical street refuse, such as brick, mortar, plaster, sewer pipe, and plastic (see Table 5-11). A total of 45 carbon rod fragments were recovered. Based on the proximity of the acequia to the old street curb, these carbon rods most likely relate to San Antonio's late nineteenth- to early twentieth-century arc lighting along the downtown streets.

Metal

The amount of recovered metal objects was unexpectedly low. A little over 300 metal items were collected, which represented 2.6 percent of all recovered artifacts (Table 5-12). Nails (n=127) were the most numerous type of metal object, but over half of these were indistinguishable between cut and wire nails. Another 91 metal items were unidentifiable. In all, more than half of the recovered metal was either an indistinguishable nail or unidentifiable, as these were heavily fragmented and rusted.

Artifacts recovered from Stratum 5 were the most substantive in determining when the acequia was finally abandoned and backfilled. As shown in Table 5-11, a large number of asphalt fragments were recovered from Stratum 5, likely street refuse that would have settled in the clayey sediment. A document, dated August 7, 1899, makes reference to the City's asphalt pavement contract (COSA, Municipal Archives 2018). Overall, the temporally diagnostic artifacts suggest that the acequia was abandoned and backfilled sometime between 1896 and 1904, which is corroborated by the Sanborn Maps produced for those years.

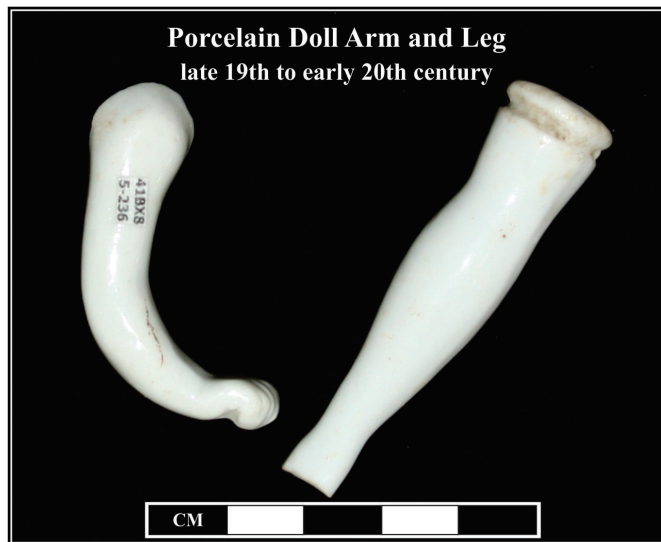


Figure 5-16. Porcelain doll arm and leg, late nineteenth century.

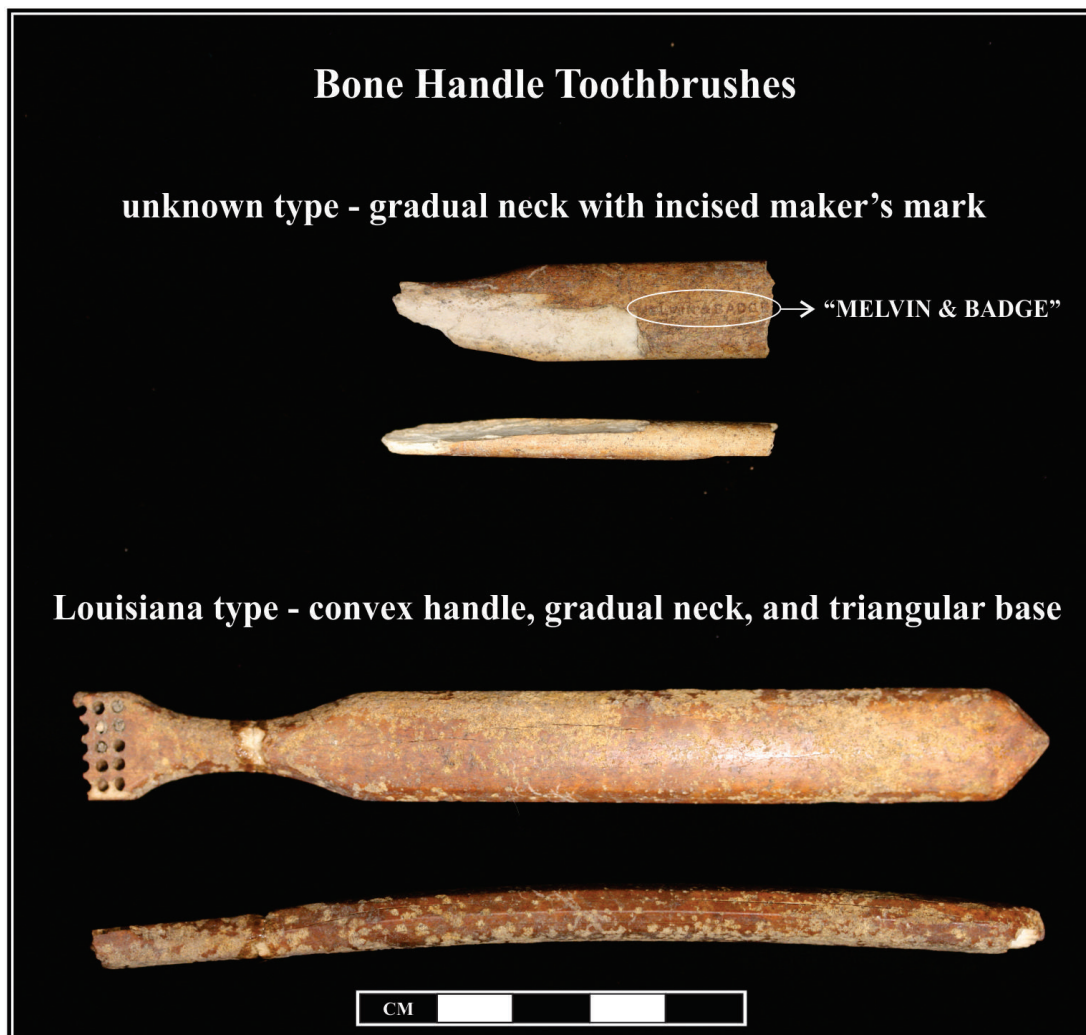


Figure 5-17. Bone toothbrushes, late nineteenth century.

Table 5-10. Recovered Glass (Excludes FS 12 and FS 14)

	Stratum 3		Stratum 4		Stratum 5		Total	
Glass Type	Count	Weight (oz.)	Count	Weight (oz.)	Count	Weight (oz.)	Count	Weight (oz.)
Chimney	2	0.03	0	0	429	6.74	431	6.77
Container/Vessel	40	6.71	23	10.24	6,969	628.07	7,032	645.02
Flat/Window	9	0.43	5	0.29	888	79.96	902	80.67
Modified/Worked	0	0	0	0	1	0.05	1	0.05
Unidentified	0	0	0	0	26	2.12	26	2.12
Total	51	7.17	28	10.53	8,313	716.92	8,392	734.62

Table 5-11. Recovered Construction Material (Excludes FS 12 and FS 14)

Construction Type	Stratum 3	Stratum 4	Stratum 5	Total
Asphalt	1	1	121	123
Brick	0	2	0	2
Carbon Rods	5	5	35	45
Mortar	0	0	2	2
Plaster	0	0	5	5
Sewer Pipe	0	0	25	25
Slag	2	0	33	35
Slate	2	0	285	287
Tile	0	0	12	12
Tile Fragments	0	0	7	7
Total	10	8	525	543

Table 5-12. Inventory of Recovered Metal

Metal Type	Stratum 3	Stratum 4	Stratum 5	Total
Containers/Caps	0	2	7	9
Farm/Ranch/Tack	0	1	3	4
Fasteners	0	0	27	27
Firearm Parts/Bullets	0	0	12	12
Household	0	0	1	1
Nails	11	17	99	127
Unidentifiable	1	19	71	91
Straps	0	0	19	19
Tools	0	0	3	3
Wire	1	2	13	16
Total	13	41	255	309

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Chapter 6: Conclusions and Recommendations

Archaeological testing and monitoring of work related to the construction of the Mother of the Americas Faith Formation Center, adjacent to St. Joseph Catholic Church and Rectory, was completed in April 2017. Located in downtown San Antonio, St. Joseph Catholic Church is a Recorded Texas Historical Landmark (RTHL), is a contributing building to the Alamo Plaza National Register District, and is adjacent to the historic Alameda (East Commerce Street). In addition, the property is traversed by the *Acequia Madre de Valero* (41BX8) and is within a River Improvement Overlay District. Furthermore, it is reported as the possible site of the Battle of the Alamo funeral pyres and as one of the possible sites of the second location of Mission *San Antonio de Valero* (41BX6).

As a result of this archaeological project, remnants of the *Acequia Madre de Valero* (41BX8) were identified and documented within 12 in. below the parking lot surface. After years of being buried under asphalt paving and caliche base material, the acequia was found largely to be in good condition. An abundance of late nineteenth- to early twentieth-century artifacts were recovered from the sediments associated with drainage settling. A small number

of Spanish Colonial ceramics were recovered as well. Based on the archival work of Cox (2005:67) and an analysis of temporally diagnostic artifacts, the conclusion is that the acequia was abandoned and backfilled between 1896 and 1904. The stone-constructed walls and cobble-lined channel of the acequia were documented before being protected with a layer of commercial-grade landscape fabric and sand, then construction activities were allowed to proceed. However, a 14-ft. section of the acequia east wall was removed in order to allow the installation of concrete pier and beams at the northwest corner of the new building.

CAR staff did not locate any evidence of the Battle of the Alamo funeral pyres nor evidence of features that may have indicated the presence of an early eighteenth-century occupation of the site. CAR recommends this segment of the *Acequia Madre de Valero* (41BX8) is eligible for listing on the National Register of Historic Places (NRHP) and designation as a State Antiquities Landmark (SAL). CAR recommends the acequia be preserved in place and protected from future site development. No additional archaeology is recommended at this time.

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