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ARCHAEOLOGICAL MONITORING OF THE
SAN JOSE ACEQUIA (41 BX 267),
WASTEWATER FACILITIES IMPROVEMENTS PROGRAM,
SAN ANTONIO, TEXAS

I. Wayne Cox

Center for Archaeological Research
The University of Texas at San Antonio
Archaeological Survey Report, No. 175

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ABSTRACT

In January 1986, the Center for Archaeological Research entered into a contract to monitor construction for a sewer line for the San Antonio Wastewater Improvements Program. The primary concern was if the San José Acequia would be in the location of construction. Monitoring operations began in October of the same year and continued until January 1987. The acequia was exposed in three locations and proved to be an unlined ditch.

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INTRODUCTION

On January 3, 1986, the Center for Archaeological Research of The University of Texas at San Antonio entered into a contract with the City of San Antonio, through the PD VA Group, to provide monitoring of construction for a planned sewer line for the San Antonio Wastewater Improvements Program, Category No. 4, Package F. Based upon the information available before work began, it was expected that the San José Acequia would be encountered at three locations along the intended route of the excavations (at Hart Avenue, between Akers Street and East Southcross Street, and south of East Southcross Street near Kelly Street).

After the project was initiated, further research in the Bexar County Archives revealed that the original assessment was essentially correct, but that the extent of impact between East Southcross Street and Hart Avenue would be more extensive than had been anticipated. The monitoring was done by I. Wayne Cox, Center research associate, under the general supervision of Thomas R. Hester and Jack D. Eaton, Center director and associate director, respectively, and Anne A. Fox, project director. Monitoring operations began on October 24, 1986, and ended on January 2, 1987, a total of 71 days.

PREVIOUS ARCHAEOLOGICAL RESEARCH

Several limited archaeological investigations of the San Antonio acequias have been conducted during the past several years, but they have been primarily in the downtown area of San Antonio (Schuetz 1970; Sorrow 1972; Adams and Hester 1973; Katz 1978; Fox 1978a, 1978b; Valdez and Eaton 1979; Frkuska 1981; Cox 1985, 1986; Ellis 1986). There has been very limited professional investigation of the San José Acequia. Harvey P. Smith, an architect, cleared a section of the acequia near Mission San José in the 1930s (Henderson and Clark 1984). In 1974, the Texas Historical Commission conducted an excellent archival search and surface survey in conjunction with their investigations for the Mission Parkway (Scurlock *et al.* 1976:27, 145-147). In 1981, the State Department of Highways and Public Transportation excavated a section of the acequia south of the mission (Henderson and Clark 1984).

HISTORY OF THE SAN JOSE ACEQUIA

The San José Acequia, one of seven major Spanish irrigation systems in the San Antonio area, was probably constructed around 1730 (Arneson 1921:125; Holmes 1962:12). The acequia irrigated some 600 acres of land in the vicinity of Mission San José. Its diversion point was a short distance below the mouth of San Pedro Creek, approximately two miles above the present mission and one-half mile above Mission Road Bridge (Harston 1935). The acequia, of necessity, followed the contours of the terrain along a convoluted course in the direction of Mission Road to the south and southeast to beyond Mission San José.

The location of the acequia was probably dictated by the relocation of Mission San José to its third, and present, site in approximately 1729 (Habig 1968:88). The mission had previously been located on the west bank of the San Antonio River, prior to 1727 (*ibid.*:86). Traces of three ruin structures were reported by Harston (1935) "where a continuation of Harlan Avenue crosses the Mission Road and about 300 feet from the Mission Road." Father Hoermann (1932:27), a priest at the mission from 1859 to 1864, also reported ruins in this vicinity. It is possible that the ruins described by Harston and Hoermann could have been structures constructed by Antonio Huizar, who obtained the land from the sale of the mission labors in 1824 (Smith 1874) and may have not been related to the mission. However, this location for the mission is strengthened by evidence of an "acequia medio" farther to the east, between the "Madre" and the river, rising from an old bow of the San Antonio River (BCDR Vol. 22:242).

In 1768, Fray Solis described the acequia: "They take a copious and abundant amount of water such that it seems a small river and it contains many fish" (Henderson and Clark 1984:6). In 1777, the acequia was described in a portion of an inspection report (Morfi 1978:211).

HISTORY OF THE SAN JOSE ACEQUIA

The farm occupies an area about a league $/2\frac{1}{2}$ miles/ square [4428.4 acres] and is all fenced, the fence being in good condition. For its benefit, water is taken from the San Antonio River and distributed by means of a beautiful irrigation ditch to all parts of the field where corn, beans, lentils, cotton, sugar cane, watermelons, melons, and sweet potatoes are raised.

The acequia functioned as an irrigation system for the needs of the mission and its Indian residents. After the mission lands were secularized, the new landowners were responsible for the upkeep of the acequia.

The dam experienced several episodes of destruction by the flooding of the San Antonio River, it was replaced once by wood, and later by mortared stone (Harston 1935). A final flood, in 1860, led to its abandonment (Arneson 1921:125). Although the acequia ceased to flow after the destruction of its dam, the abandoned channel remained a landmark and was used as a boundary marker in deed records. However, without its flow it became less of a visible barrier, and property owners in the area began to encroach upon the road that followed its channel.

In January 1869, the County Commissioners Court found it necessary to form a committee to investigate the road and the river crossing to determine if repairs were needed "as public safety may require" (MCC 1869 Journal 3a:26). In 1877, Leonardo Garza found it necessary to petition the court to have the road reopened (MCC 1877 Journal B1:233). This resulted in a series of petitions, committees, claims, and counterclaims that were not resolved until 1884, when the road was finally reopened and a bridge was approved for the river crossing (MCC 1883 Journal C:303, 1884 Journal C:534, 573). In 1885, a contract for the construction of an iron bridge across the river was awarded to W. R. Freeman at a cost of \$2600 (MCC 1885 Journal D:54). By 1889, this bridge proved inadequate to withstand the frequent river floods, and a resolution was passed to remove the bridge to "a point near Berg's Mill" and erect a new bridge (MCC 1889 Journal F:153). A contract was awarded to the King Bridge Company, at a cost of \$10,808, and the bridge was accepted as "complete and ready for travel" in October 1890 (MCC 1890 Journal F:465).

In 1894, the acequia was reopened under the Texas Water Act of 1889 by landowners along its course. However, the dam was relocated farther south on the San Antonio River, near the present Mission Road bridge, and the channel rejoined the old acequia to the south (Brook 1904; Fig. 1). At that time it was described as being "four feet deep and 12 feet wide and the carrying capacity thereof shall be 100 cubic feet per second" (Water Board Records Vol. 1 August 10, 1894:4).

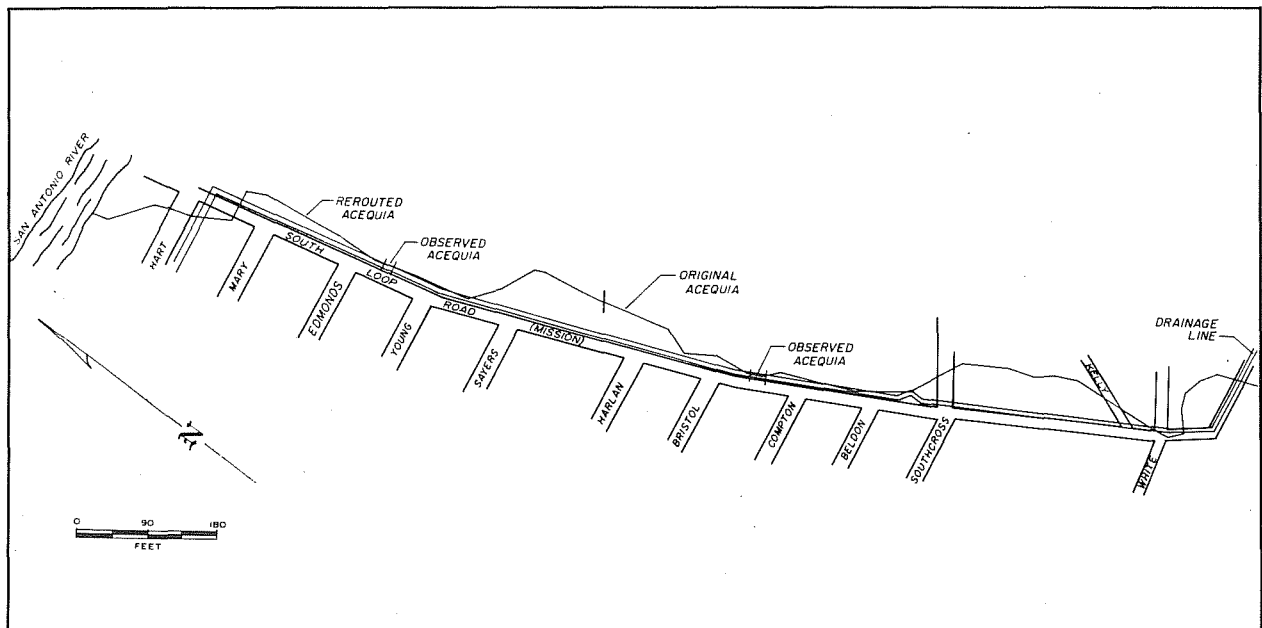


Figure 1. Original, Rerouted, and Observed San José Acequia.

J. E. Harston (1935), an engineer, described the old dam as seen in 1935,

A wing dam was made at the present intersection of Loraine [sic] Street and the river by rolling tufa stone into place along the north bank of the river which was much lower than the south side which has a 25-foot embankment where no wall was necessary. This dam was almost 100 feet wide at the lower end and with with [sic] walls about five feet thick at the base across the river.

The acequia remained in use until the 1950s (Scurlock *et al.* 1976:145).

MONITORING OPERATIONS

The Center was contacted the first week of October 1986 by the contractor, Martin K. Eby Construction Company, Inc., that they were beginning excavations at the corner of Mission Road and Roosevelt Avenue. A meeting was scheduled for October 7, 1986.

Wayne Cox, Center research associate, met with Dwayne Opella, Phil Handley, and Larry Rein, representatives from the PD VA Group. The areas of sensitivity were reviewed, and a copy of the Center's working map was made for field use. The PD VA Group personnel agreed to notify the Center representative when a sensitive area would be reached (estimated within two weeks), and they understood that the Center archaeologist would remain on call prior to that time. Active field monitoring began as construction approached the area of Mission Road and White Street and continued to Hart Avenue when the route turned westward away from the sensitive area (Fig. 1).

The contractor notified the Center on October 23, 1986, that a feature had been revealed in a trench on Mission Road just to the east of the intersection of East Huff Avenue. A large, deep cut at roughly a right angle to the roadway had been revealed, but it was a recent excavation, not the acequia (Fig. 2,a). The cut was approximately 10 feet wide and eight feet deep. The sides were extremely sharp and cut into the underlying caliche base approximately two feet. The trench showed no sign of weathering and had marks of modern machine excavation techniques across an extremely flat bottom. Richard Garay (personal communication) has documented evidence that a western branch of the acequia was constructed in this area, but the trench revealed none of the classic characteristics of an acequia.

On October 27, 1986, the contractor again notified the Center that they would be working to the north of White Avenue, another sensitive area. Richard Garay contacted Anne Fox at Mission Concepción, where the Center was engaged in excavations, requesting that she examine what he thought might be the acequia. She found no evidence that the acequia was exposed. The excavations continued to Mission Road between White Avenue and Kelly Street (Fig. 1). In the western profile of a trench a 12-inch sewer main was revealed that had been placed to a depth of five feet and rested on a base of caliche. The eastern profile showed a mottled layer of dark clay loam that overlay an irregular layer of caliche approximately eight feet thick that rested on a thick layer of water-bearing gravels. No sign of the acequia was present. After Garay and Cox consulted archival material on the route of the acequia, it was verified that the acequia was to the east of the present excavations by about one-half block. It was also agreed that the acequia would probably be encountered to the north of Southcross Avenue where Mission Road intersects with Sayer Drive and Compton Street. Cox continued to monitor the progress of the excavations at random through October 31.

Since the sewer line construction did not excavate across White Street, the sharp bend in the acequia at that point was not exposed. However, a city crew was excavating a gas main across the intersection, and the north profile of a trench revealed an unlined ditch six feet wide and four feet deep of what might have been the acequia. The trench had a black brown clay base and was filled with mixed black loamy soil laced with traces of caliche. There were no artifacts. The south profile revealed that all traces of the acequia had been destroyed by several large recent excavations in association with the gas main. A sketch map was produced and is on file with the Center.

MONITORING OPERATIONS

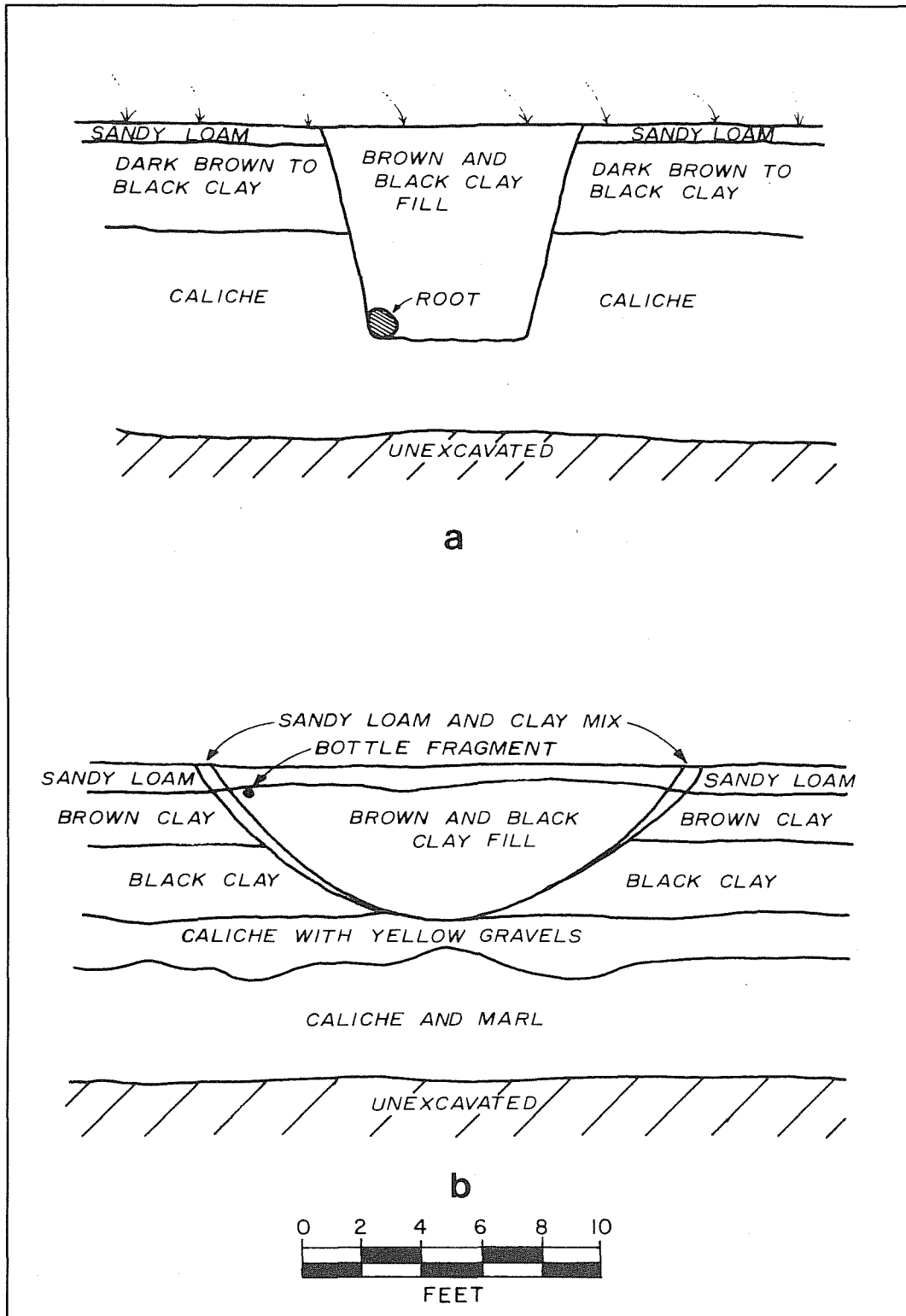


Figure 2. Profiles Observed During Field Work. a, machine excavation at East Huff Avenue; b, acequia profile at Compton Street.

A deed record was obtained that indicated the path of the acequia as it existed in 1927 (BCDR Vol. 944:211-214). Upon replotting the metes and bounds as indicated in the deed, it was found that two measurements were omitted in the deed but were noted partially on the plat map. A replot of the plat map indicated that the acequia would be encountered 700 feet north of the intersection of Southcross Street, along the north line of Compton Avenue. At that point the acequia appeared to be along the eastern edge of Mission Road, and followed it for 43 feet to the north. Farther to the north, approximately 420 feet, the acequia was shown to be in the road for 150 feet between Bristol and Harlan Streets.

The second week of November the Center representative was notified that excavations were anticipated for White Street on November 10, but rain delayed the schedule. The excavation actually began on November 11. During the excavation of the south portion of the street, the profile revealed a totally disturbed condition due to several natural gas, sewer, and water mains. Work stopped in the middle of the street at a main line, and because it was a holiday (Veterans' Day), no city crews were available for contingency purposes. Work on the north side resumed on November 12, and the area was found to be equally disturbed by additional pipe trenches. At least eight trenches, as the result of utility construction, had obliterated any trace of the acequia. It is quite possible that the trench observed during the gas line modification was, in fact, a manifestation of this extensive utility excavation rather than the acequia, as was first thought.

Operations were again monitored on November 24. The trenching had progressed to a point about 100 feet north of Southcross Street. The acequia ditch can still be followed across the Harlandale School grounds, since there has been no fill in this area.

Upon departing the area it was noted that a City Water Board crew was conducting excavations on the east side of Southcross Street, approximately 200 feet south of Sayers Street. Their purpose was to relocate a check valve that was within the path of the sewer excavation. Their excavations were well to the west of the path of the acequia at that point, and no signs of it were visible in their trench.

On December 1, the excavations had progressed beyond Southcross Street, and the acequia was exposed at a point 50 feet to the north of the intersection of Compton Street and Mission Road (Fig. 2,b). The acequia at that point was 18 feet wide and six feet deep, the width was so great primarily because the ditch had been cut on a slight angle. Photographs were taken and a search made for artifacts. An unbroken glass gallon jug with handle and screw top and one small fragment of a root beer bottle with a three color silk-screened label were recovered. Since the acequia was in use well into this century, the recent age of the artifacts was to be expected.

On December 22, the acequia was encountered again 50 feet south of the intersection of Edmonds Street and Mission Road. At this point the acequia was exposed almost parallel to its course and appeared as a broad unlined ditch, approximately six feet deep. No artifacts were recovered.

On December 30, the acequia was encountered again 50 feet south of Hart Avenue. As expected, it was an unlined ditch approximately six feet wide and five feet deep, and crossed Mission Road in an east-west direction. No artifacts were recovered. This portion of the acequia was a part that was reopened in 1894.

On January 2, 1987, the excavation crossed Mission Road, and the trenches were placed parallel to Hart Avenue on the south side of the road. Since it was anticipated that the acequia would be encountered approximately 25 feet west of the intersection, monitoring was conducted throughout the day. At the end of the work day, the trench had progressed 150 feet past the intersection; no indication of the acequia was seen. However, several old pipelines and trenches were observed, and if the acequia was shallow, and a portion of the 1894 construction, and also very near the input point at this location, then it may have been obliterated by these disturbances. Monitoring was terminated at this point.

CONCLUSIONS AND RECOMMENDATIONS

Since the construction of the San José Acequia in the early years of the 18th century, both major and minor alterations of the channel have taken place. There is no evidence that any of the route was lined or riprapped, but reinforcement of the main channel could well have been a practice at lateral points where irrigation ditches tapped the main flow for individual fields. The very nature of such an excavated watercourse, subject to the existing gradation of the terrain, would dictate almost constant minor deviation from its intended channel, and this was observed in the width of the channel as exposed in two encounters during the monitoring. With the abandonment of the San José Acequia in 1860, the normal yearly cleaning and frequent repair cycles would have ceased, and the channel was relegated to a fossil trace of importance as a demarcation of property boundaries. With the reopening of the public road in the 1880s and the relocation of the dam in the 1890s, the channel again experienced major revisions. The section exposed December 1, near Compton Street, appears to be a part of the original acequia, while the section exposed between the intersection of Young Street and Edmonds Street was a part of the post-1894 ditch. Past experience has shown that the artifacts recovered during excavations of the acequias in the San Antonio area will date to the period after the channel was abandoned, due to the flow of the water and annual maintenance during its use. Therefore, to date the sections of the acequia from physical evidence is almost impossible.

The monitoring of the acequia has indicated that reliable maps and records of the route of the acequia do exist and can provide positive predictions as to where the acequia will be encountered, but it has also revealed that within the right-of-way, construction has all but obliterated most traces of the past channel. Therefore, no further work is recommended at this time in the immediate vicinity of Mission Road, but should other construction be considered in this area on-site monitoring is recommended in the event that surviving traces of the acequia should be encountered. The area to the east of the intersection of Mission Road and Harlan Avenue is especially sensitive as the possible second location of Mission San José y San Miguel de Aguayo. Any excavation to the east of Mission Road, on either private or public lands, that penetrates below a depth of three feet could intrude upon the ancient or more modern path of the waterway. Therefore, consideration should be given for archaeological monitoring and possibly excavation throughout the area. We recommend that the San José Acequia merits consideration for National Register eligibility at the state level.

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