CHAPTER 22

SUMMARY: THE ARCHAEOLOGY OF A CHANGING COMMUNITY

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Between the twenty-first century B.C. and the arrival of the railroad in 1880, the series of communities that developed in Tucson's birthplace at the base of A-Mountain (Figure 22.1) and in the downtown area shared characteristics that define communities everywhere. They were groups of people living together, facing the same challenges, interacting face-to-face, having a general familiarity with the everyday life of each other, sharing certain beliefs and customs, and maintaining the necessary demographic balance and group memory to reproduce themselves and pass their cultures on to subsequent generations. Because each type of community shared these characteristics and developed from the previous one, the history of Tucson communities has a trajectory that can be traced through time.

Here, we use the lens of archaeology and the discoveries of the Rio Nuevo Archaeology project (Figure 22.2) to examine (1) how Tucson initially developed as one of the earliest oasis communities in the Southwest; (2) survived for millennia as an irrigation community operating extensive systems of canals; (3) transformed into both a mission and military community during the Spanish and Mexican periods; (4) and then, after becoming part of the United States in the mid-nineteenth century, rapidly evolved into an ethnically diverse frontier community providing supplies, services, and transportation links for miners and ranchers in southern Arizona. These identities sometimes overlapped for decades or for centuries, giving Tucson a diverse character through much of its history.

THE EVOLVING RIVERINE OASIS

During the 13,000 years of human occupation in the semiarid Tucson Basin, the Santa Cruz River has been the most important resource and attraction—the environmental "constant" that has been the focus of subsistence and settlement in both prehistoric and historic times. However, historical records and geology show that the river flow and the floodplain character have changed dramatically over that timespan.

It is difficult to imagine that the deep, normally dry channel of the Santa Cruz River of today was ever a permanently flowing river through Tucson. But historical photographs, newspaper accounts, and oral histories show that, as recently as the 1890s, some reaches of the river flowed year-round in a shallow channel meandering across a wide floodplain that held irrigated fields of wheat, alfalfa, cotton, and vegetables. These same sources show, however, that at the turn of the nineteenth century, a combination of drought, overgrazing, falling water table, ill-designed diversion ditches, and a series of large floods resulted in the entrenched, rarely flowing river of today.

Studies of the layers of alluvium exposed in deep trenches and the walls of the now 20-ft-deep, dry channel have shown that the turn-of-the-century event was only the most recent of six to eight major cycles of channel downcutting over the last 11,000 years (Chapter 20, this volume). Also present are layers of sediment representing long periods of floodplain building and the presence of freshwater marshes, as well as soil horizons representing intervals of floodplain stability.

The emerging picture is of a dynamic river valley with shifting opportunities and constraints for human groups. The buried contexts of prehistoric archaeological sites in the floodplain suggest that periods of settlement occupation correlate with intervals of relatively moist climate, year-round soil moisture, and floodplain stability. In contrast, canals appear to correlate with marshy, cienega soils, suggesting the necessary conditions for irrigation included a stable or rising floodplain and a high water table.

Like some other reaches of the Santa Cruz River in the Tucson Basin, the A-Mountain reach has some unique geological and hydrological characteristics that created oasis conditions. Immediately upstream (south) of A-Mountain is a subsurface barrier of volcanic bedrock that, during much of last several millennia, forced the subsurface flow of the river to the surface. This makes it likely that the area at the base of A-Mountain was one of the last remaining oases in the Tucson Basin during periods of drought and widespread downcutting of the river channel. For this reason, the layers of the floodplain preserve one of the longest records of continuous human occupation in the United States.

TUCSON AS AN OASIS COMMUNITY, CIRCA 2100 B.C.-A.D. 1890s

The earliest documented community in the floodplain at the base of A-Mountain was a settlement of seven pithouses surrounded by numerous pits for storage and other purposes, occupied about 4,100 years ago (2100 B.C.) (Figure 22.3). Named the Clearwater site, AZ AA:13:6 (ASM), the archaeological remains suggest it was a seasonal settlement occupied during the summer months by a band of hunter-gatherers who moved around the Tucson Basin throughout the year. Sediments, pollen, and charred plant remains preserved in the cultural features of this settlement show that the high water table created by a combination of geology and hydrology allowed these first Tucsonans to cultivate maize (corn), a then-recently introduced tropical cultigen, in this location. This method of water-table farming was probably the earliest type of agriculture in the Southwest (Mabry 2005).

This earliest settlement was established on a high sandbar deposited by a flood on the edge of a curve in the river channel. The agricultural fields were probably located in the silty floodplain below this better-drained higher ground. This alluvial setting is also typical for Middle Archaic (circa 3500-2000 B.C.) sites in the desert lowlands of the Southwest, suggesting that high water tables, overbank floods, natural concentrations of runoff, and moisture-retaining soils were all utilized by indigenous proto-agriculturalists who protected, encouraged, and possibly cultivated weedy native plants with oily or starchy seeds prior to the introduction of maize from Mexico (Doolittle and Mabry 2006). Therefore, summer-growing, moisture-loving maize was incorporated easily into the existing subsistence pattern that was focused on damp floodplains during the hot months. Jackrabbits and cottontails were the most frequently obtained game that supplemented plant foods (Chapter 13, this volume).

Figure 22.1. The Rio Nuevo Archaeological project uncovered the last surviving remnants of the Spanish period San Agustín Mission in Tucson's birthplace below A-Mountain. (In this photograph, the foundations of the mission granary are in the lower right; nearby white circles mark pithouses and pits of an early farming village occupied about 2,500 years ago. Photograph by Adriel Heisey.)

The early settlement of farmer-foragers below A-Mountain represents the first known occupation of Tucson's riverine oasis, and the initial stage of an early farming village culture that developed and thrived in the river valleys of southern Arizona and northern Mexico for the next 2,000 years. What do the artifacts tell about the culture of these first farmers? Fragments of pottery (Figure 22.4) and possible ceramic figurines found in the 4,100-year-old pithouses at the Clearwater site (Chapters 7 and 8, this volume) are the earliest fired ceramics that have been found in the Southwest. Rim sherds indicate the pots were very small bowls or cups, sometimes decorated with designs incised with reeds or fingernails, and

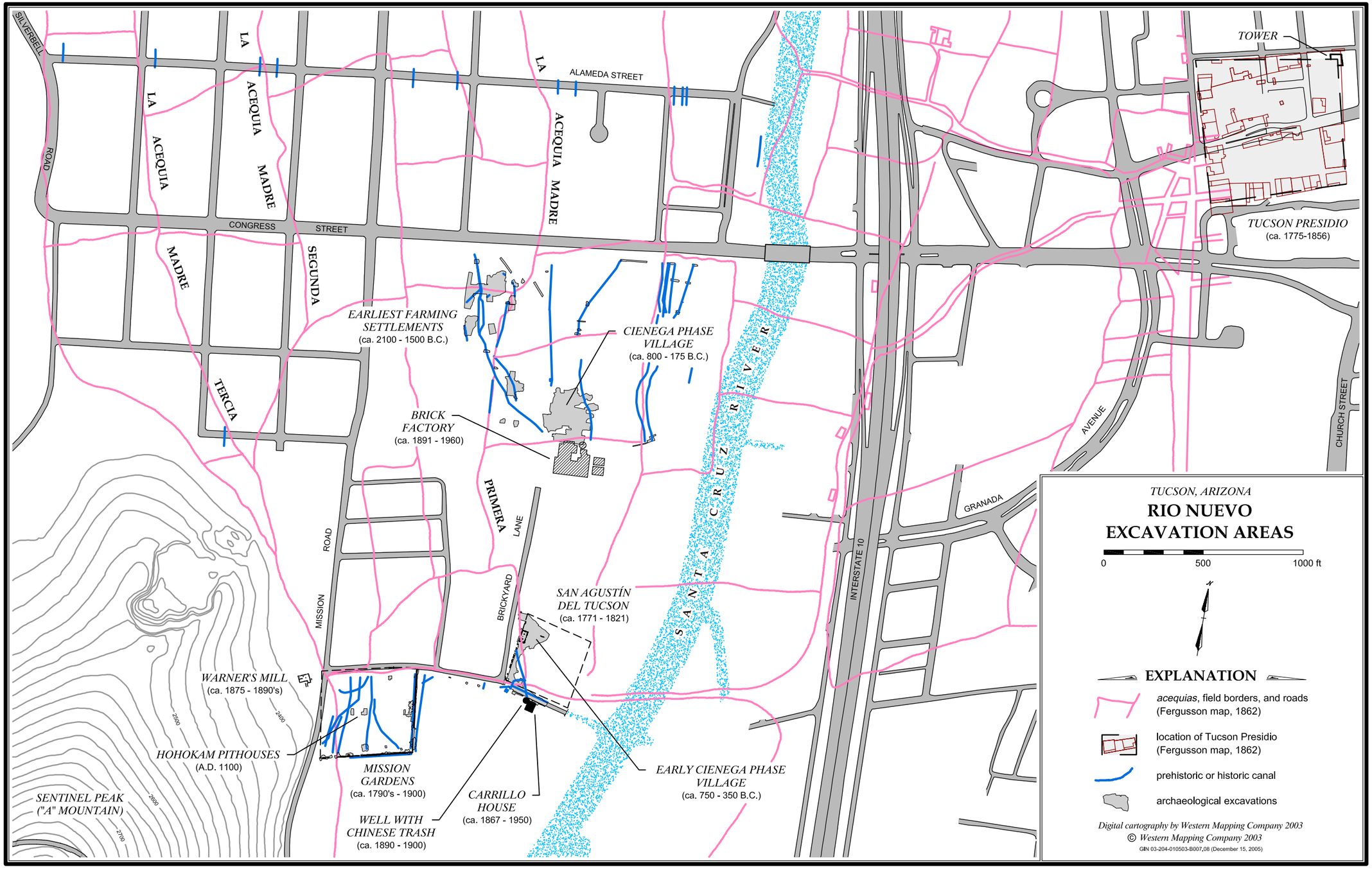

Figure 22.2. Excavations were conducted in several areas of downtown Tucson during the Rio Nuevo Archaeological project.

Figure 22.3. White circles mark pithouses and pits of a 4,100-year-old early farming settlement south of West Congress Street. (Photograph by Adriel Heisey.)

Figure 22.4. Pieces of pottery discovered in the 4,100-year-old pithouses are the oldest known pottery in the southwestern United States.

that served some function other than cooking or storage. This earliest Southwestern pottery may have been used to serve saguaro wine or an herb tea during ritual ceremonies (see Chapter 7). River cobbles and flat stones were used for grinding wild plant seeds (the early type of maize was a popcorn that probably was not ground into flour) and for making a red pigment possibly used for body decoration (Chapter 9, this report). Dart points (not arrow points, because bow-and-arrow technology had not yet been introduced to this region) and other flaked stone tools were produced from fine-grained river cobbles and other locally available, easily flaked types of rocks (Chapter 10, this report). Awls—pointed tools probably used in basketweaving—were made from the bones of large mammals, probably deer (see Chapter 13).

Over the next four millennia, the necessity of adapting to a riverine oasis greatly influenced Tucson's social and economic history. Each type of community that developed on the riverbanks here prior to modern times had some of the characteristics of oasis communities found around the world: These characteristics include: (1) isolation on the edges of larger social and economic systems; (2) concentration of residential and agricultural areas; (3) intensive control of water resources for irrigation and drinking; (4) territoriality, in the sense of residents defending from outsiders the resources of the oasis: water, arable land, crops, and livestock (after Spanish contact); and (5) near self-sufficiency, until the 1880 arrival of the railroad linked Tucson to national and international markets and ushered in the modern period.

TUCSON AS AN IRRIGATION COMMUNITY, CIRCA 1500 B.C.-A.D. 1890s

The long antiquity of irrigation along the Santa Cruz River has been demonstrated by the discovery of a canal dating to about 1500 B.C. (Chapter 19, this report). This is the oldest known canal north of central Mexico, and, along with canals dating to roughly 1200 B.C. a few miles downstream (Ezzo and Deaver 1998; Mabry 2006), are evidence for an extended history of irrigation in the Sonoran Desert. In the floodplain at the base of A-Mountain, the development of irrigation technology and techniques over the subsequent millennia are represented by a series of 35 other canals constructed between that time and the late nineteenth century, and documented during this research program (see Figure 22.2).

In addition to higher agricultural yields, reduced subsistence risks, and higher population carrying capacities, the practice of irrigation implies several things about the social organization of the groups of early farmers living in this location. The logistics of irrigation, even at a small scale, require an alliance of resource users that functions as an irrigation community (Mabry 1996, 2002). This is the most

long-lived type of oasis community in the Tucson area. Irrigation communities are territorial by nature, because their success depends on the ability of the residents to limit growth such that membership provides a secure share of water resources and protects them from free-riding outsiders. Without limitation of resource access to a bounded group, there is open access, resulting in the well-known "tragedy of the commons" (Hardin 1968).

Cross-culturally, the practice of irrigation is associated with residential stability, or sedentism, and well-developed concepts of property (Mabry 1996; Netting 1982). This is because significant investments of labor that improve long-term agricultural productivity can be protected by maintaining permanent settlements in their vicinity, and by having rules of property ownership and inheritance. In locally controlled irrigation systems, the water resources and delivery systems are usually common properties, while the fields that are watered are invariably private properties (Netting 1982).

The scale of these early Southwestern irrigation systems does not imply hierarchical social organization; 100 hectares (or 250 acres) of irrigated area appears to be a cross-cultural threshold between consensus-based management and centralized management (Hunt 1988; Tang 1992). However, even the smallest, consensus-based irrigation organizations must successfully perform tasks related to water use (for example, acquisition, allocation, distribution, drainage), tasks related to water control structures (e.g., design, construction, operation, maintenance), and tasks related to organization (e.g., decision making, resource mobilization, communication, conflict management) (Uphoff 1986).

Clearly, even the small groups who practiced early irrigated farming in the Santa Cruz floodplain had to function as cooperative social formations to build, maintain, and operate the irrigation systems. However, the incentive for investments in long-term agricultural infrastructures like canals and field borders was household ownership and lineage-based tenure of specific fields, as well as restricted sharing of crop yields at the household level. Due to this tension between communal ownership of water and canals and private ownership of fields and yields, these early irrigation-based social formations had both community and household levels of organization. Each of these levels had temporal dimensions, with communities maintaining long-term territorial rights through stable residence and membership, and households maintaining long-term property rights through lineage-based rules of land tenure. This became the basic structure of later Southwestern villages, and of a series of prehistoric and historic communities at the base of A-Mountain.

Only a few Hohokam pithouses have been found in this area of the Santa Cruz floodplain. These appear to be isolated fieldhouses, and the locations of the primary settlements of the Hohokam irrigation communities that built and operated a series of canals in this area between about A.D. 950 and 1300 are unknown. It is also likely that other, as-yet-unidentified canals were constructed by the farmers of earlier Hohokam periods, whose traces have been found in the area. These canals and fieldhouses may have been built by residents of the large Hohokam village located on the eastern side of the river, in what is now downtown Tucson, or by farmers living in a large village whose traces were found beneath St. Mary's Hospital to the northwest. Regardless of where the villages were, the canals are testament to the developing engineering skills of Hohokam farmers in this valley. One buried Hohokam canal found in the Mission Gardens locus, estimated to have been built sometime between A.D. 900 and 1000, may have been large enough to divert the entire flow of the Santa Cruz River.

Several buried canals found in the Mission Gardens locus appear to date to the Protohistoric period (circa A.D. 1450-1690s), between the end of the Hohokam Classic period and the time of Spanish contact. Early Spanish colonial documents record that much of the middle Santa Cruz Valley was irrigated during the late 1600s. During his first visit in 1692, the missionary Father Eusebio Francisco Kino found communities of Piman-speaking irrigators along the river at the villages of Bac, Tucson, and Oiaur. In 1701, Kino established the San Xavier Mission at Bac, next to an existing major canal. When the mission of San Agustín was built at Tucson in 1771-1772, the mission community irrigated gardens and orchards within the mission grounds, and groups of Sobaipuris and Papagos (now called Tohono O'odham) also irrigated fields on the western side of the river. The eastern floodplain was also irrigated after the garrison of the presidio at Tubac was moved north to Tucson in 1776. Increasing competition for the water of the river led to a 1776 agreement that guaranteed three-fourths for the Indian villages and one-fourth for the presidio (Meyer 1984).

In 1780, Gerónimo de la Rocha visited the Tucson Presidio and described the *acequia* (canal) system (Rocha n.d.:82):

> We left the Presidio of Tucson and went one-quarter of a league to the south, and on our return I went off with Captain Don Pedro Allande to examine the dam and the place where the water is divided into three abundant acequias that serve for drinking and for cultivation of the fields of the Pueblo and Presidio.

De la Rocha's 1780 and 1784 maps of the Pimería Alta show, south of the mission *visita* and new presidio at "Tucson," a dam diverting water from the river into an *acequia* passing west of the *visita*. This area was referred to as *la isla* (the island) (Sonnichsen 1982).

After Mexico gained independence from Spain in 1821, new settlers began arriving from the south. The Mexican government secularized the missions by federal decree in 1827, and the settlers pressed officials for the water rights held by the mission Indians. The Indians' allocation of the Santa Cruz River was reduced from three-fourths to one-half by the Governor of Sonora in 1828 (Meyer 1984), allowing Mexican settlers to establish the traditional Sonoran system of irrigated agriculture in Tucson. The Rio Nuevo archaeological investigations identified two late prehistoric canals that were partially cleaned out and revived during the mid- or late nineteenth century, probably by the arriving Mexican farmers (see Chapter 20). Documents and oral histories indicate that three *acequias madres* (mother canals) were maintained as common property by a *común de agua* (irrigation community), and that an elected *zanjero* (overseer) supervised water distribution. The canal alignments of this irrigation system were recorded on the 1862 Fergusson map (see Figure 1.2). During the Rio Nuevo excavations, canal segments were found that match some of alignments shown on that map, including the "*Acequia Madre Primera*."

The traditional Mexican irrigation community, which supplied most of the food and livestock fodder for the growing settlement at Tucson, functioned until the late nineteenth century. During the early 1880s, a group of mostly Euro-American entrepreneurs purchased floodplain land upstream. They cleared this land for new fields and excavated deep ditches to increase the water supply to the vegetable gardens of their Chinese tenants, which diminished the supply to the downstream Mexican-American farmers. In 1885, the entrepreneurs defeated a challenge in court by citing U.S. water laws as superseding traditional local customs, and this ruling marked the beginning of the end for the traditional irrigation community (Sheridan 1986). In its place, Euro-American corporations began competing for the river's water (Kupel 1986).

TUCSON AS A MISSION COMMUNITY, 1690s-1820s

When Father Kino visited the middle Santa Cruz Valley in the 1690s, he found a Piman village called *Schook-schon* in the native language (this is the origin of the name Tucson). Situated at the base of a small, black mountain, the village was surrounded by a system of irrigation canals providing water for agricultural fields where maize, beans, and squash were being grown. Kino would later introduce European crops and livestock, including wheat, peaches, cattle, horses, and sheep. Census records in the 1750s and 1760s suggest a few hundred people lived in the settlement, including Sobaipuri Pimans who arrived in 1762 from the San Pedro River area. A detailed census prepared in 1801 by Father Llorens listed almost 250 people at San Agustín, including Pimans, Papagos, and Gileños. By the 1820s, the mission was largely abandoned, as people moved away to San Xavier and the Gila River, or perished from European diseases (Dobyns 1976). Late nineteenth century photographs document the disintegration of the mission ruins (Figure 22.5).

Much of the San Agustín Mission remnants were destroyed in the 1940s and 1950s, by clay mining and the use of the area as a municipal landfill. Recent excavations revealed that approximately 20 percent of the site within the mission compound walls had survived, including seven features, pits, and trash middens that have provided artifacts and food remains discarded by people who lived at the mission between about 1770 and 1820.

These items reveal that residents relied on beef and mutton as their main source of meat during this period, although hunting of rabbits and deer continued (see Chapter 13). A roasting pit feature, with charred mesquite logs covered by fire-cracked rocks and containing a number of cattle bones, reveal that the Native Americans living at the mission cooked meat outdoors. Charred plant remains indicate residents grew wheat, corn, and squash and gathered wild plant foods, including saguaro fruit, mesquite pods, and false purslane (Chapter 14, this volume).

Much of the pottery found at the mission was manufactured nearby (Chapters 6 and 7, this volume). Residents used these vessels to store foodstuffs and beverages, to cook in, and to serve in. Unlike residents of the nearby presidio, they did not use a large number of imported vessels. The residents still used bows and arrows for hunting, as shown by the small, stone arrow points found (see Chapter 10). No musket balls or gunflints were found—it is uncertain if the people at the mission owned muskets or pistols. Given the cost of these items and the expense of ammunition and gunpowder, they probably relied on their bow and arrows for hunting and personal protection.

Pieces of obsidian, a volcanic glass often used for arrow points, were analyzed and were found to have come from outcroppings to the west. During the Prehistoric era, obsidian came from the north and east. The change in sources may indicate the closer outcroppings to the east had been cut off by the presence

Figure 22.5. When this photograph was taken in 1880 from A-Mountain (then known as Sentinel Peak), the ruin of the two-story convento was the last standing structure of the San Agustín Mission (Photograph no. 18233, AHS/SAD).

of Apaches (Chapter 17, this report). A very small number of Mexican artifacts, a couple of pieces of majolica pottery and glass, were recovered (Chapter 12, this report). This suggests the mission residents had few imported possessions.

Much of the material culture of the mission residents was probably made from materials that have not survived—leather, basketry, matting, and cloth. While much has been lost, the remaining artifacts and food remains allow for a better understanding of life at the mission, revealing aspects not discussed in the documents about the San Agustín Mission.

TUCSON AS A MILITARY COMMUNITY, 1775-1856

Life was harsh for the 400 or so residents of the Tucson Presidio for much of the time the village was a military fort, from the move north from Tubac in 1776, until the withdrawal of Mexican forces in 1856. Tucson was on the northern frontier of New Spain, sometimes isolated from other communities. People often made do with what could be made locally; the nearest town with a store was several days travel to the south at Arizpe. Apaches attacked frequently, although the period between 1793 and the early 1820s was relatively peaceful due to a policy of appeasement.

Surviving documents provide information about the broad events of the presidio (Officer 1989), but details about everyday life are lacking. A few earlier excavations provided small samples of material culture and the remains of meals (Thiel 2004; Thiel et al. 1995). During the recent archaeological work, artifacts and food materials were collected from seven pit features at the northeastern corner of the fortress (Figure 22.6). These items and the architectural remains found there and at the Tucson Museum of Art have provided new information about the daily routines of the presidio families.

Animal bones reveal that residents of the fort relied on beef as their main source of meat (see Chapter 13). Chicken, sheep or goats, and pigs provided smaller amounts of meat. The cattle were butchered within the confines of the fort, and every scrap of meat was likely used, with long bones broken to extract marrow. Carcasses were chopped apart with axes and cleavers, and they were processed into pieces small enough to be boiled or roasted. Sediment samples provided a variety of charred plant remains (see Chapter 14). Wheat, maize, peppers, and apples or quinces were grown by fort residents. However, wild foods, such as saguaro cactus fruit and mesquite pods, were also collected. These latter foods might have been gathered because not enough crops could be grown on the nearby floodplain, especially during times of drought (Officer 1989).

Residents likely used iron or brass vessels to cook and store foods and beverages when the fort was first established. Soon, however, ceramic stewing pots, tortilla griddles, *chocolateros*, and water ollas were obtained from local Native Americans (see Chapter 7). A resident of the fort may have asked a local O'odham potter to manufacture these items, or perhaps a resourceful potter examined Spanish vessels and then replicated them for sale or barter to the soldiers and their families.

Meals were eaten from majolica dishes brought north from central Mexico on pack trains. A few pieces of Chinese porcelain also arrived at the fort after a long journey from China, to the Philippines, and then to the western coast of Mexico. These brightly colored vessels were important to the women of the presidio; they were symbols of lives left behind in Mexico by the initial residents of the fort, and were the vessels remembered by second and third generation residents who grew to adulthood in Tucson. By the mid-1820s, a small number of English vessels also made their way to Tucson, some with decorative scenes of faraway Europe.

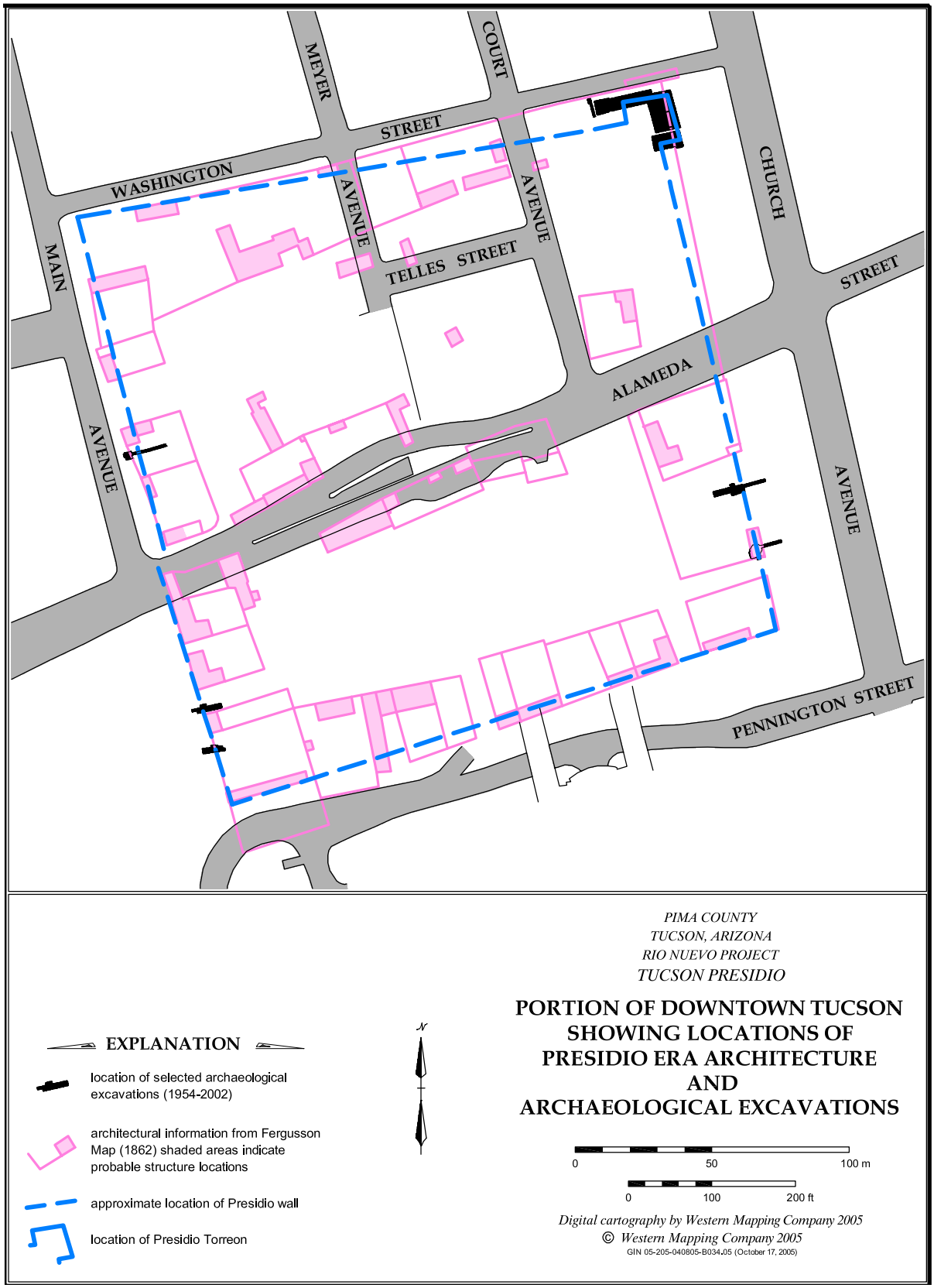

Figure 22.6. Archaeological excavations in several parts of downtown Tucson have uncovered portions of the walls of the Tucson Presidio, occupied between 1775 and 1856.

A few copper buttons, a bone comb, gun parts and ammunition, gaming pieces, and a crucifix are among the other items used by fort residents, uncovered during the recent work (Chapter 12, this report). The relative paucity of metal items suggests iron and copper were carefully conserved, perhaps carried to the presidio blacksmith shop, with its meteorite anvil, where unwanted or broken items could be recycled (Willey 1997). A few exotic artifacts reveal that trade was taking place between the residents of Tucson and distant pueblos in northern Arizona. Sherds of Zuni pottery, from at least four different vessels, were found (Figure 22.7). Captain José de Zúñiga led a group of soldiers from Tucson on an expedition north to the Zuni villages in 1795 (Officer 1989:68). It seems likely some of the soldiers bartered for small, decorated black-on-white pots, which would have been a novelty back in Tucson.

Architectural remains reveal that a large square tower stood at the northeastern corner of the fort (Figure 22.8), projecting 20 ft out from the walls of the presidio to provide a line of fire along the northern and eastern walls. Soldiers stood guard inside the 20-ft-tall tower, standing on a wooden walkway, watching out for the Apaches.

The eastern wall of the fort was found to line up with a wall segment found in 1992, proving that the wall running beneath the courtyard of the 1929 Pima County Courthouse was, in fact, a part of the presidio (Thiel et al. 1995). A ramada was found just inside the fort, built in an area where the earth had been tamped down to form a hard surface. Beneath this surface, a series of small pits were found, likely places where dirt was mined to provide material to patch adobe walls or for mud plaster.

Nearby, in the small excavation conducted between the Fish and Stevens homes in the Tucson Museum of Art complex, archaeologists located a corner fireplace inside a dwelling, also proving that the western wall of the presidio could not have been part of the Fish house, as has been claimed in the past (Thiel 2004).

Life was difficult in the Tucson Presidio, but many families stayed in the community through good times and bad times. Many people living in Tucson and southern Arizona today can trace their ancestry to the soldiers who served at the fort during the Spanish and Mexican periods.

TUCSON AS A DIVERSE FRONTIER COMMUNITY, 1856-1900s

The Mexican residents of Tucson watched with trepidation as the trickle of Americans into the community became a flood in the 1860s (Sheridan 1986). Men arrived from the eastern United States in search of opportunities—prospecting for mineral wealth, operating ranches, and opening stores throughout southern Arizona (Figure 22.9). Most of these men were single, and many sought wives among the Mexican girls and women living in Tucson and Tubac. The desire for manufactured goods, medicines, foodstuffs, and alcoholic beverages resulted in the importation of these goods in freight wagon trains, traveling overland from San Diego, Guaymas, and Santa Fe. These goods allowed the eastern men to recreate a semblance of their former lives, although this was tempered by Sonoran Desert adaptations.

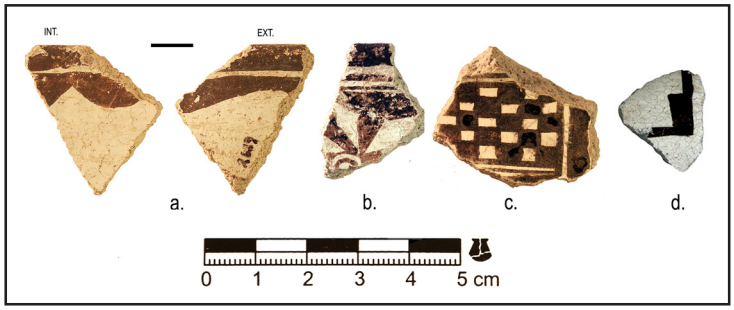

Figure 22.7. Zuni sherds found in the Tucson Presidio excavations: (a) Feature 376, FN 2639; (b) Feature 0, FN 3442; (c) Feature 1, FN 3892; (d) Feature 376, FN 2944.

Figure 22.8. The wall foundations of a corner tower of the Tucson Presidio were found beneath a parking lot on the corner of Washington Street and Church Avenue; a prehistoric Hohokam pithouse is visible beneath the wall.

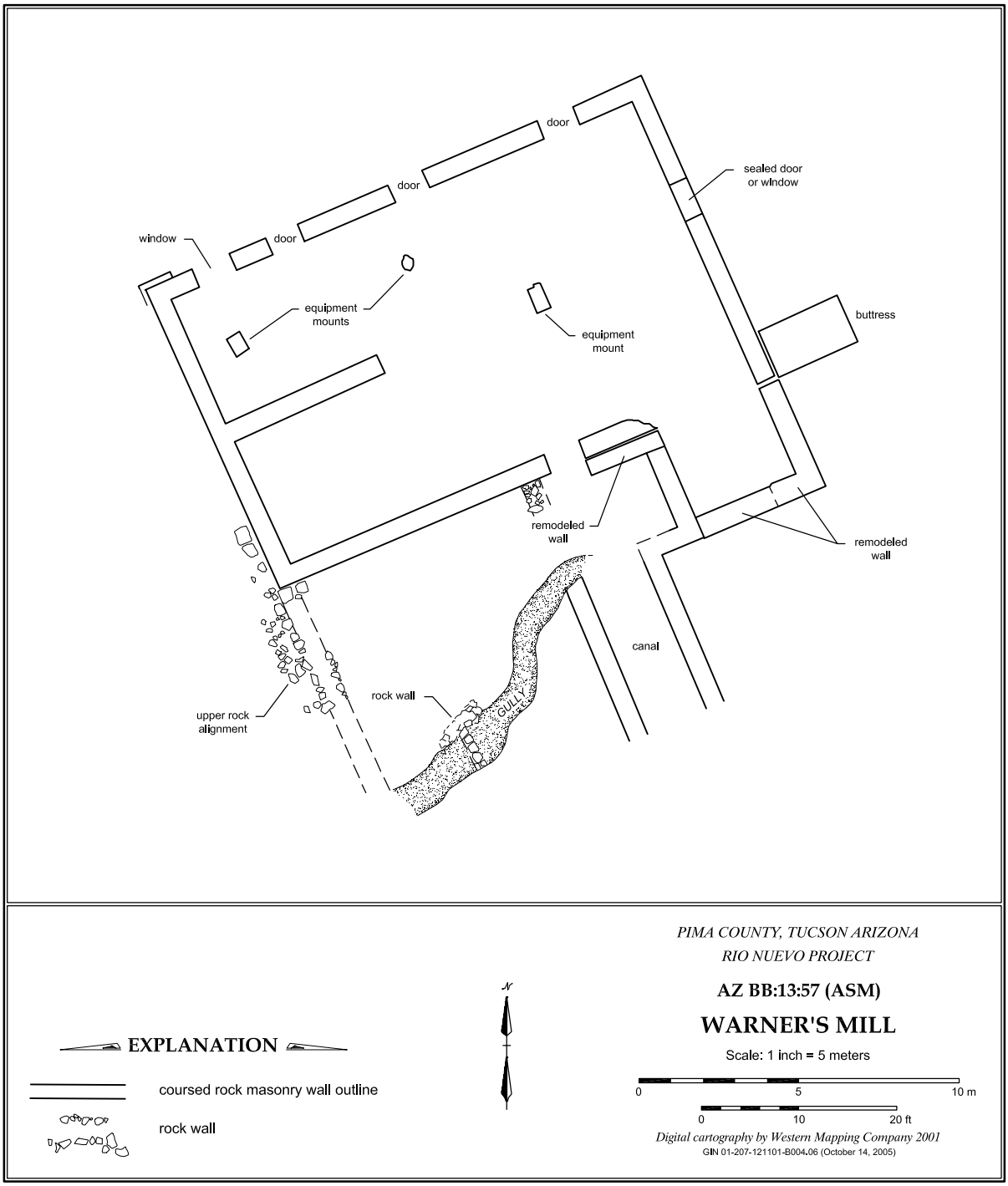

Figure 22.9. The foundations of a water-powered mill completed in 1875 by Solomon Warner are still visible on the lower slope of A-Mountain above the Mission Gardens. (Warner was one of the first Americans to arrive in Tucson after it became part of the United States in 1854.)

Most residents lived in traditional adobe Sonoran rowhouses, built close to the street, and with typical amenities such as corner fireplaces, high ceilings, and interior patios. Mexican wives likely used imported foodstuffs to please the tastes of their husbands, but also continued to prepare traditional items such as tortillas and spicy sauces incorporating chilies grown in kitchen gardens. The use of local Native American pottery continued, with most households having water jars made in the vicinity of the Papago [today Tohono O'odham] Reservation at Bac (see Chapter 7).

The arrival of the railroad in 1880 changed the community dramatically (Sonnichsen 1982). An influx of Euro-Americans resulted in changing dynamics with the resident population. After the railroad arrived, the number of Euro-Americans swelled rapidly, and inter-ethnic relations began to swing toward conflict and segregation. The Euro-American population did not surpass the Mexican-American population until the first decade of the twentieth century. But, already by the 1890s, the rate of Mexican and Euro-American marriages had declined by half, Euro-Americans had begun to dominate white collar jobs and business ownership, and neighborhoods had become ethnically segregated. Tucson had become a community of ethnic enclaves (Sheridan 1986).

Ironically, this swing toward segregation may have helped to preserve the ethnic identity of Tucson's Mexican-American community during the late nineteenth and early twentieth centuries, an identity that otherwise may have been lost due to assimilation. Mexican-American households continued to use utilitarian Mexican and Native American pottery, and to consume meat from cattle heads and feet, cuts used in traditional Sonoran dishes. This process can be seen in archaeological remains, with Mexican households more likely to have these items. Even so, by the early 1900s, the overall number of artifacts manufactured in Mexico declined, and meat was less likely to be butchered in traditional ways (Mabry et al. 1994; Thiel 2004).

Many of the Chinese men who had helped to build the railroad chose to remain in the community, including a group who rented Leopoldo Carrillo's farm at the San Agustín Mission site during the 1890s. The Chinese gardeners who lived there grew produce and raised pigs (and perhaps sheep) to sell to their fellow Tucsonans.

Analysis of artifacts and food remains from a well found at the mission site, and filled between approximately 1890 and 1900, indicates that the Chinese men attempted to replicate the diet and ways of serving food they had known back in China. A variety of plants were utilized, including maize, wheat, and grapes (see Chapter 14). Many different kinds of meat were served, including imported dried fish from China and the Pacific Ocean (see Chapter 13). Local meat sources—such as mollusks collected from the Santa Cruz River, pigs raised by the farmers, and smaller amounts of cattle and sheep—added variety to the diet. Sauces imported from China and purchased at local Chinese-run grocery stores helped further in recreating the taste of dishes of the homeland. These efforts were further accentuated by purchasing traditional Chinese vessels—rice bowls, sauce bowls, and small porcelain cups—to serve foods and beverages in, as well as an iron wok to prepare foods (see Chapter 12).

There was a dichotomy, though, between the private and public lives of the Chinese farmers. While at home, in a private setting, they maintained their Chinese traditions. In the open, at work in the fields, or as they traveled through town peddling produce, the Chinese men adopted Western clothing and used western tools (Lister and Lister 1989). Western clothing may have been adopted because it was more readily available and more suitable for the harsh climate of Arizona. However, the clothing may also have been used in an attempt to blend in after harsh immigration laws were passed by the United States government.

THE MODERN COMMUNITY OF TUCSON

The Rio Nuevo Archaeology project sought to uncover information within the planned heritage parks at the San Agustín Mission and the Tucson Presidio, as well as to mitigate the effects of construction on the Clearwater site and archaeological remains at other locations. The work conducted has provided valuable new information, illuminating many aspects of Tucson's past that were previously either unknown or inadequately understood.

Current residents of Tucson proved to be immensely interested in the work, with over 5,000 people visiting the excavations and about 125 helping as volunteer archaeologists. The work was extensively covered by the local newspaper, radio, and television media, along with articles in *Smithsonian* and *American Archaeology* magazines, thereby reaching national and international audiences (Bawaya 2001; Lichtenstein 2002).

Today, Tucson is a community largely composed of people who have recently moved here from elsewhere. Many new residents know little about the area's past. Visitors to the Rio Nuevo excavations were often surprised to learn of the Spanish presidio and mission, and the long timespan of the prehistoric occupations. One goal of the project was to educate the public—a goal met through a website, school programs and teachers' workshops, and a major exhibit at the Arizona Historical Society.

In the future, another goal of the Rio Nuevo project will be met. In 1999, voters approved Proposition 400, a tax-increment financing measure. A selling point of this initiative was the Tucson Presidio and San Agustín Mission heritage parks, prominently displayed on campaign materials. With the completion of archaeological and historical research and the development of plans for the parks, the next phase, actual construction of park facilities, has begun. Residents and tourists will be able to visit the parks and learn about the communities that preceded twenty-first century Tucson.

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