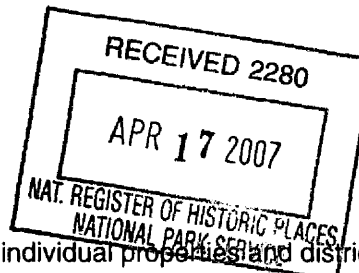


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United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM



This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Canoa Ranch Rural Historic Landscape

other names/site number San Ignacio de la Canoa land grant; Canoa Ranch

2. Location

street & number 5555 South Interstate 19

not for publication _____

city or town Green Valley

vicinity X

state Arizona

code AZ

county Pima

code 019

zip code N/A

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this nomination _____ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets _____ does not meet the National Register Criteria. I recommend that this property be considered significant _____ nationally _____ statewide locally. (____ See continuation sheet for additional comments.)

JAMES W. BLANKIN AZ STATE
Signature of certifying official/Title

13 APRIL 2007
Date

ARIZONA STATE PARKS
State or Federal Agency or Tribal Government

In my opinion, the property _____ meets _____ does not meet the National Register criteria. (See continuation sheet for additional comments.)

Signature of commenting official/Title

Date

State or Federal agency and bureau

=====

4. National Park Service Certification

=====

I hereby certify that this property is:

- entered in the National Register
See continuation sheet.
- determined eligible for the
National Register
See continuation sheet.
- determined not eligible for the
National Register
- removed from the National Register

Linda M. Wood 3/30/07

other (explain): _____

Signature of Keeper

Date of Action

=====

5. Classification

=====

Ownership of Property (Check as many boxes as apply)

- private
- public-local (county)
- public-State
- public-Federal

Category of Property (Check only one box)

- building(s)
- district
- site
- structure
- object

Number of Resources within Property

Contributing	Noncontributing
<u>27</u>	<input type="checkbox"/> buildings
<u>14</u>	<input type="checkbox"/> sites
<u>1</u>	<input type="checkbox"/> structures
<u>42</u>	<input type="checkbox"/> objects
	<input type="checkbox"/> Total

Number of contributing resources previously listed in the National Register none

Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.)

Cattle Ranching in Arizona, 1540-1950

=====

6. Function or Use

=====

Historic Functions (Enter categories from instructions)

Cat: Agriculture

Domestic

Sub: animal facility

agricultural field

agricultural outbuilding

irrigation facility

single dwelling

multiple dwelling

secondary structure

Current Functions (Enter categories from instructions)

Cat: Vacant/Not in Use

Sub: _____

=====

7. Description

=====

Architectural Classification

Other: Transitional (Sonoran-Anglo-American)
Late 19th and 20th Century Revivals: Spanish Colonial Revival
Modern Movement: Ranch Style

Materials (Enter categories from instructions)

foundation Concrete
roof Metal, Wood (shake), Asphalt
walls Adobe, Wood (weatherboard), Stucco, Brick,
Metal
other Stacked logs (fencing), Steel pipe (fencing)

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

See continuation sheets for Section 7.

=====

8. Statement of Significance

=====

Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- A. Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Property is associated with the lives of persons significant in our past.
- C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D. Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations (Mark "X" in all the boxes that apply.)

- A. owned by a religious institution or used for religious purposes.
- B. removed from its original location.
- C. a birthplace or a grave.
- D. a cemetery.
- E. a reconstructed building, object, or structure.
- F. a commemorative property.
- G. less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance (Enter categories from instructions)

Agriculture
Architecture

Period of Significance 1821-1951

Significant Dates 1821: Ortiz brothers receive title to 17,000-acre San Ignacio de la Canoa land grant
1876: Ortiz family sells San Ignacio de la Canoa to Maish and Driscoll
1890-1891: Canoa Canal is constructed at Headquarters
1898: Maish and Driscoll receive confirmed title to San Ignacio de la Canoa in U. S. court
1912: Levi H. Manning purchases San Ignacio de la Canoa land grant
1935: Levi Manning dies; son Howell Manning, Sr. becomes owner, builds Big House and
earliest portion of Howell Manning, Jr. Family House
1936-ca. 1951: major expansion of ranching and farming facilities centered on
Headquarters

Significant Person (Complete only if Criterion B is marked above)

Cultural Affiliation

Architect/Builder John W. Smith

Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets.)

See continuation sheets for Section 8.

=====

9. Major Bibliographical References

=====

Bibliography (Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

See continuation sheets for Section 9.

Previous documentation on file (NPS)

- preliminary determination of individual listing (36 CFR 67) has been requested.
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____

Primary Location of Additional Data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repositories: University of Arizona Library, Special Collections, Tucson
Arizona Historical Society, Tucson

=====

10. Geographical Data

=====

Acreage of Property 4,960 acres

UTM References (Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing	Zone	Easting	Northing
1	_____	_____	_____	3	_____	_____
2	_____	_____	_____	4	_____	_____

X See continuation sheet for Section 10.

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)

The boundary of the Canoa Ranch Rural Historic Landscape is shown on the accompanying USGS maps and in Figure 2, Additional Documentation. The depiction on the USGS maps includes 16 UTM reference points, which are listed on the continuation sheet for Section 10.

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)

See continuation sheet for Section 10.

=====

11. Form Prepared By

=====

name/title Scott O'Mack, historian; Janet Parkhurst, architect

organization Statistical Research, Inc. date August 1, 2006

street & number 6099 East Speedway Boulevard telephone (520) 721-4309

city or town Tucson state Arizona zip code 85712

=====

Additional Documentation

=====

Submit the following items with the completed form:

Continuation Sheets

Maps

- A **USGS map** (7.5 or 15 minute series) indicating the property's location.
- A **sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items (Check with the SHPO or FPO for any additional items)

See continuation sheet for list of additional items.

=====

Property Owner

=====

(Complete this item at the request of the SHPO or FPO.)

name _____

street & number _____ telephone _____

city or town _____ state _____ zip code _____

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NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 1

Canoa Ranch Rural Historic Landscape
Pima County, Arizona

7. NARRATIVE DESCRIPTION

The Canoa Ranch Rural Historic Landscape is a ranch property of approximately 4,960 contiguous acres located in the Santa Cruz River valley of Pima County, Arizona (Figures 1 and 2). The property is about 5 miles south of the community of Green Valley, about 3 miles north of the community of Amado, and immediately east of Interstate 19. The Santa Rita Mountains, which include peaks over 9,400 feet in elevation, rise dramatically just to the east, creating a spectacular backdrop to the floodplain and range lands of the ranch. The Canoa Ranch Rural Historic Landscape is owned in its entirety by Pima County, which purchased the property in 2001 in order to preserve it as open space and to protect its many cultural and natural resources.

Cattle ranching has a long and colorful history in Arizona. The physical traces of that history—the houses, outbuildings, corrals, fences, grazing lands, agricultural fields, and many other features associated with ranching—are found throughout Arizona and are the subject of a recent statewide Multiple Property Documentation Form (MPDF), *Cattle Ranching in Arizona, 1540–1950* (Collins 2002). The present nomination relies on both the general historical context developed for the MPDF and the property types that it establishes. In order to provide a basic historical framework for the narrative description of the Canoa Ranch Rural Historic Landscape, this section begins with a brief overview of ranching history and ranching properties in Arizona, based largely on the MPDF. A discussion of the particular history of Canoa Ranch is provided in Section 8 of the nomination.

Cattle Ranching in Southern Arizona

Cattle first entered Arizona as early as 1540, the year that Francisco Vásquez de Coronado led the first major Spanish expedition into the Southwest, but cattle ranching in Arizona did not begin for another 150 years. In 1690, the Jesuit priest Eusebio Francisco Kino began introducing small herds of cattle into southern Arizona as he established missions along the Santa Cruz River and explored throughout the region. The cattle in these early herds were developed from imported Spanish breeds and were well adapted for survival in hot, arid southern Arizona. Over the next 130 years, cattle became an important part of the regional economy, and herds were tended both by the relatively small numbers of Spanish settlers in the region and by local Native Americans.

When Mexico won independence from Spain in 1821, an important consequence of the regime change was an increase in the number of land grants awarded to private individuals by the Mexican government. Many of the grants in southern Arizona, where ranching was usually the only feasible use of the land, were for very large parcels, in some cases exceeding 50,000 acres. Spanish and Mexican ranchers recognized the need for vast reserves of land when raising cattle in this arid region, where sources of water were scarce

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Section 7 Page 2

**Canoa Ranch Rural Historic Landscape
Pima County, Arizona**

and the grazing capacity was limited. Canoa Ranch began in 1821 as a 17,000-acre private land grant known as San Ignacio de la Canoa.

By the 1840s, a nearly constant threat of Apache raids had forced the virtual abandonment of most large land grants in southern Arizona. In 1854, the Gadsden Purchase made southern Arizona a part of the United States, but Apache hostilities continued to make ranching difficult, especially on the large, isolated land grants. A system of forts was soon established by the U.S. Army to protect lives and property in the region, and ranching gradually grew safer and more profitable. The presence of the army also created a new market for beef, which in turn spurred further development of ranching. Remnants of the Mexican cattle herds survived into the U.S. period, but Anglo-American ranchers also brought in new stock from the east, which greatly changed the composition of southern Arizona herds.

The Homestead Act of 1862 led to an influx of easterners and others to Arizona drawn by the lure of land ownership and the possibility of financial success. Farming was often impossible in arid southern Arizona, so many newcomers turned to cattle ranching, which itself proved impossible on the standard 160-acre homestead. The Arizona ranchers who survived in the business did so by expanding their holdings to include multiple water sources and thousands of acres of rangeland, thus emulating the older Spanish and Mexican tradition of using a vast acreage to raise cattle.

In the first decades of the U.S. period (1854–1880), ranchers in southern Arizona endured isolation, Apache raids, and other harsh conditions, and had to be essentially self-sufficient. The design of ranch buildings and other structures tended to reflect the realities of life in a demanding, sometimes dangerous environment. The basic model for the early Arizona ranch was the Spanish or Mexican hacienda, in which the main house, serving as both residence and business office, was the focal point. Other buildings and structures, such as stables, bunkhouses, workshops, and corrals, were arranged in close proximity. The hacienda was a protected, self-contained community, and by the end of the Mexican period in southern Arizona it was part of the regional vernacular. Later in the nineteenth century, as Anglo-American influences became stronger, the functional equivalent of the hacienda became the ranch headquarters, which was similarly the pivot of all ranch activities.

Until 1880, the year the railroad arrived in southern Arizona, the materials and features of buildings in a typical ranch headquarters were mostly Spanish or Mexican in origin, with an emphasis on simple massing, small windows set into adobe walls, and flat roofs. This style persisted into the 1880s and, in modified form, well into the twentieth century; but with the arrival of the railroad, new building materials like brick, cement, and dimensional lumber became available, and ranchers were less likely to restrict themselves to local styles and materials when building or improving their houses. As ranches grew, prospered, and changed, ranch buildings and other ranch structures also changed. A ranch building, especially the main ranch house, generally reflects its period of use with a layering of changes associated with evolving economic and other circumstances on the ranch. In fact, it is rare for a historic ranch house to have survived to the present with few alterations (Collins 2002; Stewart 1987).

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**Canoa Ranch Rural Historic Landscape
Pima County, Arizona**

Collins (2002) calls the ranch landscape the broadest category of ranch-related property in Arizona. Its distinguishing feature is the use of vast areas of land for grazing. In the early years, the range was open and unfenced, and a rancher's use of it was limited only by the availability of water and his ability to manage his herds. By the early twentieth century, much of the open range was fenced, but often only to mark the limits of an individual rancher's property. Cattle still roamed freely over ranches of many thousands of acres. A common misconception is that beyond the confines of its headquarters, a ranch consisted of a natural landscape. But ranching altered every part of the open range to some degree, and line camps, cattle trails, water-control features, and miles of fences and roads are significant features of the ranch landscape.

General Description of the Canoa Ranch Rural Historic Landscape

Canoa Ranch was for many years one of southern Arizona's largest, most prestigious cattle ranches. Established on a Spanish-Mexican land grant in 1821 and occupied only intermittently until the 1870s, the ranch grew steadily in the last decades of the nineteenth century, then flourished after 1912. In that year, the ranch was bought by Tucson entrepreneur Levi Manning, who made the ranch the social and economic hub of the middle Santa Cruz River valley. The ranch headquarters, where the Manning family and a host of employees resided for the next 40 years, amounted to a small village. During the Manning years, the ranch boasted extensive, irrigated crop cultivation as well as cattle raising. As discussed in more detail in Section 8 of this nomination, the period of significance for the Canoa Ranch Rural Historic Landscape is 1821–1951. The beginning of the period corresponds to the year Canoa Ranch was established as a land grant, the boundaries of which remain partially intact today; the end of the period corresponds to the year that the Manning family began selling off their vast holdings.

The Canoa Ranch Rural Historic Landscape consists of the 4,960-acre Pima County property, all of which was once part of the original San Ignacio de la Canoa land grant. The property is anchored by the Canoa Ranch Headquarters, a well-preserved complex of residential and ranching-related buildings and structures. A variety of other ranching- and agriculture-related structures, including a canal, a small lake (now dry), pit silos, and earthen water-control features, as well as abandoned agricultural fields, are located near the Headquarters, and numerous additional ranching- and agriculture-related structures and features are found elsewhere on the larger property. The larger property also holds numerous prehistoric and historical-period archaeological sites but no standing ruins.

The buildings and other features in the Headquarters date from the early 1900s through the early 1950s. Outside the Headquarters, the ages of most features are uncertain, but the canal is known to have been built in the 1890s, and a small cluster of buildings and features (hereafter the South Residential Cluster), located 2½ miles south of the Headquarters, dates to the 1930s. With the exception of the South Residential Cluster, which continues to serve as a caretaker's residence, the buildings and structures on the ranch are now vacant, and the many landscape features are long out of use. The Headquarters is surrounded by chain-link

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Section 7 Page 4

Canoa Ranch Rural Historic Landscape
Pima County, Arizona

fence and the buildings are boarded up to prevent vandalism. The abandoned fields, lake, and canal have been reclaimed gradually by vegetation.

Canoa Ranch can be reached by taking the Canoa Ranch exit off Interstate 19 about 5 miles south of Green Valley. The frontage road on the east side of the interstate is followed to its north end, then the ranch driveway is entered by turning east. (The frontage road is the former route of the old Tucson-Nogales Highway.) The entrance to the ranch is a padlocked steel gate. Passing the gate, a narrow dirt road extends southeast toward the Headquarters, with the Santa Rita Mountains prominent in the east.

Methods

The narrative description of the Canoa Ranch Rural Historic Landscape presented here follows the format outlined in *Guidelines for Evaluating and Documenting Rural Historic Landscapes* (McClelland et al. 1999). Each of the 11 landscape characteristics defined in the *Guidelines* was documented during fieldwork and research for this nomination, and supplemented by the results of recent archaeological and planning work at the ranch (Huber and Van West 2003; O'Mack 2003; Poster Frost Associates 2006; Riggs 2002; Van West 2003).

For the description and evaluation of architecture on Canoa Ranch, the team architect was able to study many of the Canoa Ranch buildings, including some interiors, in considerable detail. Other buildings could not be entered but were examined from the exterior. A 1995 architectural survey of the ranch by CDG Architects produced useful floor plans of several buildings, some of which are included in this nomination. Assessor record cards, often a useful source on building history, could not be consulted because the files of the Pima County Assessor's Office are undergoing reorganization. Early published descriptions of Canoa Ranch (MacTavish 1924; McTavish 1925) provided photographs of some of the earliest buildings in the Headquarters. A hand-drawn invitation to a barbecue to celebrate Levi Manning's seventieth birthday in 1935 depicted a large barn, a windmill, and a water tower—features that are now gone. An article in the August 1937 issue of *Architectural Forum* provided photographs of the front façade and glazed east terrace of the main ranch house, which were designed by Tucson architect John W. Smith. This article verified that subsequent alterations to the house have been minimal. Information about Smith was gleaned from Tucson city directories (Tucson City Directory 1922–1960), the El Encanto Estates (Tucson) National Register nomination (Linda Laird and Associates 1988), and an interview with Joana Diamos, a neighbor and schoolmate of Smith's daughter. An *Arizona Daily Star* (ADS) article of October 22, 1937, described a fire that destroyed a barn and other buildings and structures but spared the main owner's residence.

To describe and evaluate landscape features, the authors made several trips to the ranch to survey the overall 4,960-acre ranch property. It was not possible to make a complete inventory of the many landscape features, but we studied examples of the full range of features. Aerial photographs of the ranch from 1936, 1954, 1967, and 1979 proved the best record of the landscape features that are now gone or have changed

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**Canoa Ranch Rural Historic Landscape
Pima County, Arizona**

significantly, especially when compared with modern aerial photographs. These photographs also provided important clues to the history of construction in the Headquarters.

For the narrative statement of significance, the team historian carried out research at the University of Arizona Library (Special Collections) and the Arizona Historical Society Library, both located in Tucson. There is no available comprehensive history of Canoa Ranch. Instead, the research drew on: scattered mentions of the place called La Canoa in published sources from the Spanish, Mexican, and early U.S. periods; depictions of the ranch vicinity on published and unpublished nineteenth-century maps; miscellaneous published and unpublished items mentioning the ranch; and the few published items devoted to one or another aspect of ranch history. The only published item giving a detailed, scholarly account of an aspect of Canoa Ranch history is an article by Willey (1979) on the history of boundary surveys for the San Ignacio de la Canoa land grant. Despite its narrow purpose, Willey's article is valuable for its notes and conclusions on other aspects of ranch history, particularly the nineteenth and early twentieth centuries. (Dr. Willey also graciously provided the team historian with access to his research files on Canoa Ranch, which include information that did not appear in his publication.) The history of the La Canoa land grant has been summarized by Mattison (1946:294–297) and Wagoner (1975:166–172), both of whom included details on the general history of the ranch. Officer (1987) cited occasional references to La Canoa in unpublished documents from the Mexican period (1821–1853). Hadley (2000) prepared a useful time line of the history of the ranch, although she did not cite references.

Valuable information about the history of Canoa Ranch also was gathered when the authors visited the Headquarters accompanied by Louise (“Deezie”) Manning-Catron, the widow of Howell Manning, Jr., and Clare Schnauffer, the daughter of Howell Manning, Sr., and Howell Sr.’s second wife, Evelyn Manning. Ms. Manning-Catron lived on the ranch from 1948 to 1955. Ms. Schnauffer grew up partly on the ranch, and she and her husband, William Schnauffer, later served as ranch managers for a time. Both women provided much useful information about the buildings and structures at the Headquarters, and about the operation of the ranch more generally. Ms. Manning-Catron also graciously provided access to her private collection of photographs, letters, and other documents relating to Canoa Ranch history, in which she has long had a strong personal interest.

Characteristics of the Canoa Ranch Rural Historic Landscape

The Canoa Ranch Rural Historic Landscape is best described in terms of the 11 landscape characteristics identified in the National Register Bulletin, *Guidelines for Evaluating and Documenting Rural Historic Landscapes* (McClelland et al. 1999).

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**NATIONAL REGISTER OF HISTORIC PLACES
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Section 7 Page 6

**Canoa Ranch Rural Historic Landscape
Pima County, Arizona**

1. Land Uses and Activities

Canoa Ranch was established in 1821 as San Ignacio de la Canoa, a Spanish (and subsequently Mexican) land grant of approximately 17,000 acres. From the beginning, the ranch had the two principal requirements for success in arid southern Arizona: a large acreage, virtually all of it suitable for grazing, and a reliable source of water, the Santa Cruz River. For the first 50 years or so, the original owners and their heirs did not reside permanently on the grant and instead used it intermittently for grazing cattle and possibly other livestock, although exactly how much of the grant was actually used in this period is unknown. In 1876, the grant was purchased by Anglo-American entrepreneurs, and a period of more intensive use began that included the development of farmland along the Santa Cruz River. But cattle grazing remained the focus of the ranch, and the new owners may have expanded the area used for grazing by purchasing or leasing lands outside the original 17,000-acre grant. There is no good record of how much land was being grazed by the owners of Canoa Ranch during most of its history. By 1950, the total area of the ranch, including owned and leased grazing lands, was about 500,000 acres. The headquarters of the ranch, including the residences of the owners and the many outbuildings, corrals, and other features related to the operation of the ranch, were always located in the southern half of the original land grant, within what is now the Canoa Ranch Rural Historic Landscape.

By the 1870s, cattle raising on Canoa Ranch was complemented by some crop raising, which made the ranch similar to other large southern Arizona ranches established in the nineteenth century (Collins 2002). The wide floodplain of the Santa Cruz River at Canoa, and the low, relatively level river terraces that flanked the floodplain, made the ranch especially suitable for agriculture, and a variety of crops were grown over the years, including alfalfa, barley, cotton, sorghum, and wheat. Some crops were grown for sale at market, but others—probably most—were grown for cattle forage.

The average annual rainfall in the middle Santa Cruz Valley is just 11 inches, which means agriculture at the ranch depended heavily on irrigation, initially on water drawn from the river and later on water pumped from wells. The earliest documented diversion of river water was the Canoa Canal, a mile-long open earthen ditch that ran south to north, parallel to the west side of the Santa Cruz, watering fields along its length. The head of the Canoa Canal was actually not at the river's edge but in an area adjacent to the river where it tapped the river's "underflow," the water that ran just below the surface. The Canoa Canal remained in use into the 1950s and is still a prominent feature on the ranch today; by 1907, deep wells were also supplying irrigation water, which was apparently being pumped directly into the canal for distribution to fields. After 1907, deep wells quickly became the most important source of water on the ranch as the regional water table—and the flow in the Santa Cruz River—dropped steadily.

The earliest aerial photographs of Canoa Ranch date to 1936 and show that cultivated fields were restricted to the immediate vicinity of the Headquarters. All of these fields were probably watered by the Canoa Canal (Figure 3). The rest of what is now the Canoa Ranch Rural Historic Landscape, apart from the relatively small area occupied by the Headquarters, was used for grazing. It was probably shortly after 1936

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**Canoa Ranch Rural Historic Landscape
Pima County, Arizona**

that the amount of land under cultivation significantly increased. The next-earliest aerial photographs of the ranch date to 1954 and show that in the intervening years agriculture had expanded to floodplain areas well to the south (upstream) of the Headquarters and to the opposite side of the river, both areas that were not served by the Canoa Canal and were undoubtedly irrigated by wells. The 1954 aerial photographs could not be reproduced here, but essentially the same areas are shown as cultivated fields in aerial photographs from 1967 (Figure 4). Areas of abandoned fields corresponding to the areas still under cultivation in 1967 are visible in modern aerial photographs of the ranch (Figure 5). These irrigated areas probably were used both as pastures and for cultivation at different times during the period of significance. Figure 6 is a sketch of the Canoa Ranch Rural Historic Landscape showing the relationship of abandoned fields to other major features in the district. No information about the particular crops grown in particular areas is available.

Also evident in both the 1954 and 1967 aerial photographs, and postdating the 1936 aerial photograph, is the artificially straightened channel of the Santa Cruz River. The straightening of the river was part of an effort by the ranch owner to prevent seasonal flood damage to cultivated fields and irrigation features along the river, particularly on its west side. The same effort raised berms along portions of the west bank of the river, and placed other berms and ditches near the mouths of the larger seasonal washes that drain into the Santa Cruz. Many of these features can still be traced today on both sides of the river within the Canoa Ranch Rural Historic Landscape.

2. Patterns of Spatial Organization

The 17,000-acre San Ignacio de la Canoa land grant was a rectangular parcel about $2\frac{3}{4}$ miles wide by $10\frac{3}{4}$ miles long, with its long axis oriented southwest-northeast and parallel to the Santa Cruz River, which ran down the center of the grant. Use of the grant for ranching and farming, as well as the movement of people and cattle through the grant, was always structured by its orientation with respect to the river. The river's floodplain and the adjacent low terraces were important both as a transportation corridor (see below) and as the most suitable lands for agriculture. East and west of the floodplain, the land was more rugged and suitable only for grazing. Although the north half of the grant was sold off in 1916, and a portion of the grant's south half west of Interstate 19 is not a part of the current Pima County property, the Canoa Ranch Rural Historic Landscape still preserves the rectangular shape of the original grant and its linear, riverine orientation.

The grazing lands associated with Canoa Ranch eventually expanded far beyond the limits of the original land grant, but the southern half of the grant, and the Headquarters in particular, remained the pivot of ranch activity throughout the period of significance. Within the Canoa Ranch Rural Historic Landscape, the largest concentration of features is found on the west side of the river, extending in linear fashion from the Headquarters, near the north end of the property, to a small cluster of residential and ranching features (the South Residential Cluster) located about $2\frac{1}{2}$ miles to the south, near the south end of the property (see Figure 6). Between the Headquarters and the South Residential Cluster is a series of major features reflecting

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**Canoa Ranch Rural Historic Landscape
Pima County, Arizona**

important stages in the development of the ranch, including abandoned agricultural fields, the Canoa Canal, two large pit silos, a large earthen reservoir, numerous remnants of a pipe irrigation system, and various earthen water-control features. The linear arrangement of virtually all of these features, including the dirt road that connected the Headquarters with the South Residential Cluster, was determined in large part by the presence of the river: it was the original source of water for the canal, it created the linear floodplain where agriculture was possible, it prompted the water-control features that protected the fields, and it restricted the direction of movement within the grant to a route parallel to its axis.

The spatial organization of the Headquarters itself is notable for the distinctions maintained between the residential and working portions of the ranch, which amounted to a distinction between the areas used by the ranch owner's family and the areas used by the people who worked for the owner, many of whom lived on the ranch. Very similar distinctions in the organization of space are evident in the headquarters of other large southern Arizona ranches, most notably the Empire Ranch, located about 40 miles to the east (Majewski et al. 2004). At the Canoa Ranch Headquarters, the primary residence of the ranch owner, a secondary residence, and a guest house are separated from the ranch-related outbuildings and most of the employee residences by a driveway flanked by adobe walls; a single, employee residence, the ranch foreman's house, is on the same side of the drive as the owner's residence, but it stands about 150 feet to the south. This separation provided both the owner's family and the employees a degree of privacy, and it undoubtedly helped shield the owner's family from the noise and odors that emanated from the working part of the Headquarters. As at other ranches, it can also be seen as a reflection of the economic and class distinctions that existed between owners and employees, but it is worth noting that former residents of the Canoa, including members of the owner's family and members of the families who lived and worked on the ranch, have stressed that day-to-day life at the Headquarters was suffused with a feeling of community, and that, despite the ostensible class distinctions, the relationship between owners and employees was generally excellent.

3. Response to the Natural Environment

The Canoa Ranch Rural Historic Landscape is located within the lower Sonoran Desert portion of the Basin and Range Province, a physiographic region that includes the western and southern portions of Arizona and adjacent portions of southern California, southern New Mexico, and the Mexican state of Sonora. The Basin and Range Province is characterized by generally northwest-southeast-trending linear mountain ranges, from a few hundred feet to more than 10,000 feet in elevation, which rise abruptly from broad basins and alluvial valleys, like that of the Santa Cruz River. The Canoa Ranch Rural Historic Landscape straddles the Santa Cruz and encompasses both its floodplain and a transitional, varyingly rugged *bajada* zone dissected by ephemeral washes. The washes originate on the slopes of the Santa Rita Mountains to the east and the Sierrita Mountains to the west (Riggs 2002:5).

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The climate of the Santa Cruz Valley is desert or semidesert, and the vegetation community is classified as the Arizona Upland division of the Sonoran Desertscrub biome (Brown 1994). Dominant tree species include palo verde, mesquite, and acacia. Native cacti include cholla, prickly pear, hedgehog, barrel, and saguaro. A variety of grasses and other plants provide scrub forage suitable for low-intensity cattle grazing. The floodplain of the river once supported a denser riparian vegetation dominated by cottonwood, willow, and large mesquite, and its alluvial soils are well suited to farming. Cattle grazing, tree cutting, field clearing, and agriculture at Canoa Ranch have greatly modified the natural vegetation, particularly in the immediate vicinity of the river, where the original riparian vegetation has disappeared almost entirely.

The Santa Cruz River was always the most important natural feature on Canoa Ranch. Today, the river carries water only after a heavy rain, but as late as 1900 it was, in the vicinity of Canoa Ranch, a flowing stream for most of the year, and a place where water could always be found not far below the surface. One longtime ranch resident remembers that even as late as the 1950s the river typically had running water 9 months of the year, drying up entirely only in April, May, and June (Marco Salcido, interview with Jon Mirto of Poster Frost Associates, 5 July 2006). As one of only a few permanent streams in southern Arizona, the Santa Cruz as a whole was a focus of human activity for thousands of years, a status well reflected in the large number of prehistoric Native American archaeological sites that have been recorded within the Canoa Ranch Rural Historic Landscape. The dependable source of water at La Canoa was also its principal attraction in the historical period, first as a place to stop and camp, then as the center of a Spanish and Mexican land grant, and then as the focus of a large Anglo-American ranching and farming operation.

4. Cultural Traditions

Canoa Ranch began as a Spanish land grant in 1821, became a part of newly independent Mexico the same year, and then became, in the second half of the nineteenth century, a part of the essentially bicultural region of southern Arizona, where Mexican and Anglo-American traditions of ranching, farming, and architecture successfully commingled. Even though Canoa Ranch was bought by Anglo-Americans in the 1870s and remained in private Anglo-American ownership until the 1970s, most of the people who worked on the ranch were Mexican or Mexican-American, and most of the ranching practices followed on the ranch were heavily influenced by Mexican traditions, as was typical of ranching across Arizona (Aguirre 1975; Collins 2002). A good example of the distinctive influence of Mexican ranching traditions at Canoa Ranch is the set of *retaque* corrals that stands at the south end of the Headquarters. A *retaque* corral consists of pairs of heavy vertical posts between which lengths of roughly cut timber are stacked horizontally to create a dense, sturdy wall that can withstand the largest and most recalcitrant livestock. The *retaque* corrals at Canoa Ranch are outstanding examples of the design.

The influence of Mexican traditions is also apparent in much of the architecture at the Canoa Ranch Headquarters. Many of the buildings are made of adobe, most or all of which was presumably made on the

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ranch, and most of the buildings were probably built by Mexican workmen. The earliest adobe buildings show strong Sonoran influences, with rectilinear plans, tall flat façades, and flat roofs. But the adobe buildings also incorporate vernacular elements introduced by Anglo-Americans, and thus all may be classified as Transitional, an architectural type described for southern Arizona by Sobin (1975) and discussed further in Section 8. Later pitched-roof buildings, including some of the employee dwellings, are also built of adobe but are examples of Anglo-American vernacular types.

The boundaries of Canoa Ranch are another strong reminder of the Spanish and Mexican heritage of the property. The ranch was first surveyed by the General Land Office (GLO) in the 1880s. Because it was a Mexican-period land grant that had been confirmed by the U.S. Court of Private Land Claims, the original grant boundaries were preserved and the ranch was not incorporated into the standard rectangular survey of townships, ranges, and sections, even though all of the land surrounding it was so subdivided. The original land grant boundaries remained the only surveyed boundaries of the property until the north half of the grant was sold off in 1916; the southern half of the grant remained intact until the 1970s. Even today, the original land grant boundary marks the southern and eastern limits of the Canoa Ranch Rural Historic Landscape; the northern limit is the boundary established in 1916. The distinctive shape of the original Spanish land grant, which contrasts with the regular section grid of adjacent townships, is still discernible in the layout of roads and other features that border the south and east sides of the property.

5. Circulation Networks

When the first documented Spanish expedition traveled down the Santa Cruz River in 1690, the natural north-south corridor occupied by the river and its valley had long been an important regional transportation route. The corridor remained important throughout the Spanish colonial period. In 1775, Juan Bautista de Anza, commander of the Spanish presidio at nearby Tubac, followed the Santa Cruz River north on the first leg of his well-known expedition to California, camping at La Canoa for a night. The stop by Anza has been commemorated by the inclusion of Canoa Ranch as one of the official stops on the Juan Bautista de Anza National Historic Trail, designated in 1990. While the precise route of Anza's expedition is uncertain, it undoubtedly passed through the Canoa Ranch Rural Historic Landscape, probably along the west bank of the Santa Cruz River. Anza's presumed camping place is a spot at the head of the Canoa Canal, which was built to tap the same water source that made La Canoa a regular stopping place for travelers until the advent of automobiles.

In the early 1900s, a group of Tucson businessmen, including Levi Manning, worked to establish a rail link with Mexico. In 1909, the Southern Pacific Railroad (SPRR), which had completed its line through Tucson in 1880, was finally convinced to extend a line south from Tucson to Nogales, incorporating short lines already built at the north and south ends of the route. Construction of the SPRR's Nogales Branch, also known as the Tucson-Nogales Railroad, began in the summer of 1909; the first train ran along the

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route in June 1910. The start of the Mexican Revolution that same year limited the importance of the line for the next decade, but it immediately provided ranchers and mining operations along the route with a connection to both Tucson and the international border (Myrick 1975:313–326). The line was used regularly until the 1950s, when truck traffic largely eclipsed it, but it is still maintained and used today by its current owner, the Union Pacific Railroad.

The Tucson-Nogales Railroad followed the Santa Cruz River closely for most of its route, and like the river, it bisected Canoa Ranch longitudinally, running along the front edge of the natural terrace that marks the eastern limit of the floodplain. When Levi Manning bought Canoa Ranch in 1912, just after the railroad was built, the presence of the railroad was undoubtedly a factor in his decision to invest in the property. The ranch did not have its own station, but the station at Amado (originally Amadoville) was just 3 miles south of the ranch's southern boundary and was probably used by the Mannings. The railroad remains a prominent feature on the Canoa Ranch landscape today. Judging from date stamps on sections of track, portions of the railroad within the ranch property were rebuilt in the 1940s, but its overall appearance has probably not changed since 1910 (Figure 7). The railroad crosses numerous shallow washes that enter the ranch property from the east, which required the construction of a low bridge at each crossing. Some of the original wooden trestle bridges survive, at least partially; others have been replaced by modern concrete structures (Figures 8–10). The raised grade of the railroad obstructs the flow of water east to west down the adjacent *bajada*, making it susceptible to damage during heavy rains and requiring a deep ditch along its east side to divert water to the nearest wash.

The Tucson-Nogales Highway was the first state highway built through the Santa Cruz River corridor and followed basically the same route as earlier foot trails, wagon roads, and automobile routes. The highway was replaced by Interstate 19 in the 1960s, but its route survives as the frontage road of the interstate, marking the western boundary of the Canoa Ranch Rural Historic Landscape. Several dirt roads enter Canoa Ranch from the frontage road (Figure 11). Some of these roads can be seen on early maps and aerial photographs of the ranch and represent long-used access points; the roads long associated with the principal clusters of features on the west side of the river are plotted on the overall landscape map (see Figure 6). All of these roads connect with a north-south dirt road that still runs the length of the Canoa Ranch property, from the Headquarters on the north to the southern limit of the property at Elephant Head Road (Figure 12). Historically, this north-south road was the connection between the principal clusters of features on the ranch.

A road once entered the ranch from the east, roughly at the midpoint of the eastern property boundary (see Figure 6). This road led to an at-grade crossing at the railroad and an unimproved dry-weather crossing at the river, eventually intersecting with the main north-south ranch road and continuing west to the Tucson-Nogales Highway (see Figure 6). The railroad crossing is still in place, but the road has been abandoned for many years, probably in part because of the increasing difficulty of crossing the river, which has been down-cut many times by seasonal flooding (Figure 13). This east-west road, which served the cluster of ranching features located at the head of the Canoa Canal, was undoubtedly used heavily by ranch traffic; remnants of

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macadam are visible along the portion of the road east of the railroad. The alignment of the road as it can be traced today (see Figure 6) may not correspond exactly to its original alignment, which may have been obscured by erosion and disuse.

6. Boundary Demarcations

As noted above, the eastern and southern boundaries of the Canoa Ranch Rural Historic Landscape partially preserve the original alignments of the eastern and southern boundaries of the San Ignacio de la Canoa land grant. Today these boundaries are marked by Canoa Road and Elephant Head Road, respectively, which are both county-maintained paved roads (Figure 14). Elephant Head Road is named for a prominent barren outcrop at the western foot of the nearby Santa Rita Mountains. Both roads are probably as old as the railroad, if not older: both appear, with basically the same alignments, on a 1920 topographic map of the area (Corps of Engineers 1920). At the southeast corner of the Canoa Ranch Rural Historic Landscape, immediately southeast of the intersection of Canoa and Elephant Head Roads, a stone survey marker is embedded in the ground, pecked with the letters "SIDLC SE COR" (i.e., "San Ignacio de la Canoa southeast corner") (Figure 15). This marker was placed in 1900 when the confirmed land grant was surveyed by the GLO. The surveyor, Philip Contzen, placed similar markers at half-mile intervals around the entire land grant boundary, and several of these markers can still be found today (Willey 1979:167).

The northern boundary of the Canoa Ranch Rural Historic Landscape corresponds to the ranch boundary established in 1916, when Levi Manning sold off the north half of the original land grant. Today this boundary is partially marked by a fence line, and it presumably was in earlier years, too. There does not seem to have been an access road entering the ranch property from the north, nor a road running along the northern boundary. The western boundary of the Canoa Ranch Rural Historic Landscape is marked by the right-of-way fence for the Interstate 19 frontage road, which makes it the most recent boundary. The minor irregularities in the western boundary (see Figure 6) correspond to various utility easements; the largest irregularity, on the south half of the western boundary, corresponds to the point where the frontage road jogs around an interstate rest stop. Canoa Ranch seems to have had few internal boundary markers during its entire period of significance, which can be attributed to its continuous ownership by a single (if occasionally changing) party. Agricultural fields on the ranch may have once been protected by fences, but today few fence lines survive on the ranch property, except within the Headquarters. The one notable example of a boundary marker within the property is the set of freestanding adobe walls found along the central driveway of the Headquarters, as discussed under Buildings, Structures, and Objects (see below).

7. Vegetation Related to Land Use

The vegetation on Canoa Ranch preserves some of the general characteristics of the natural vegetation of the Santa Cruz River valley, but it was significantly altered during the period of significance by intensive

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use for grazing and agriculture. The vegetation patterns that prevailed on the ranch during the period of significance have since been altered by decades of disuse.

As noted earlier, Canoa Ranch is located within the Arizona Upland division of the Sonoran Desertscrub biome (Brown 1994). Within this division, three natural vegetative communities have been distinguished on the ranch: riparian, upland, and desert grasslands (Poster Frost Associates 2006:41). The riparian community, which was centered on the channel of the Santa Cruz River, ranged from stands of cottonwood and willow at the river's edge to a mixed scrub of mesquite, catclaw acacia, palo verde, hackberry, and other xeroriparian species on much of the floodplain. The upland community, a sparser vegetation that prevailed on most of the ranch property away from the floodplain, consisted of a variety of perennial shrubs and small trees, including mesquite, whitethorn acacia, catclaw acacia, and burro weed. The desert grasslands community, dominated by a variety of native grass species, was probably once found in limited upland areas of the ranch property, but it has disappeared under pressure from grazing and other uses.

The riparian vegetation along the Santa Cruz River has also essentially disappeared, in part through removal to facilitate agriculture on the ranch, in part because of the steady drop in the water table (see Figure 13). Nearly all of the floodplain areas adjacent to the river were cultivated during the period of significance and now have a generally barren appearance, with only scattered patches of recent regrowth (Figures 16 and 17). West of the floodplain, the relatively level upland areas where grazing was once common now have scattered mesquite and other trees, interspersed with a fairly dense cover of grasses and other small plants, which gives a savannah-like appearance to the area (see Figure 11). East of the floodplain and railroad, the somewhat more-rugged upland area was not affected by agriculture (with the exception of a narrow strip of fields immediately east of the railroad at the south end of the property; see Figure 6) and the effects of grazing are no longer obvious. This is probably the best-preserved natural landscape on the ranch. It varies from a savannah-like mesquite scrub on the south (Figure 18) to an open, sparsely vegetated grassland dotted with ocotillo and creosote bush at the northeast corner of the property (Figures 19 and 20). The many ephemeral washes that flow east to west across this area support narrow strands of denser vegetation (Figure 21). The washes on the west side of the river are fewer in number and fan out more widely on the floodplain, but similarly support narrow strands of denser vegetation (Figure 22). Early photographs of Canoa Ranch show that the Headquarters, especially the areas around the owners' residences, was once lushly landscaped with native and introduced tree species. The Canoa Canal, which ran immediately east of the Headquarters, was lined on both sides with tall trees, and the Canoa Lake, immediately north of the Headquarters, was ringed by cottonwoods. Virtually nothing remains of this vegetation, although some recent plantings are now maintained near the main house.

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8. Buildings, Structures, and Objects

Almost all of the extant buildings at Canoa Ranch are found in the Headquarters at the north end of the property (Figure 23). A few other buildings are found in a small, discrete cluster at the south end of the property, called here the South Residential Cluster (Figure 24). Both the Headquarters and the South Residential Cluster also include a variety of ranching-related structures, such as corrals, livestock shelters, water tanks, and so on. A third discrete cluster of features, called here the Canal Head Cluster, is located about a mile south of the Headquarters (Figure 25). It lacks buildings and consists exclusively of livestock-related and irrigation features. The description here focuses on individual buildings and structures (or types of structures) in the three clusters. A single feature that can be characterized as an object as defined by the *Guidelines for Evaluating and Documenting Rural Historic Landscapes* (McClelland et al. 1999) was recorded on the ranch. This is the stone survey marker placed in 1900 at the southeast corner of the San Ignacio de la Canoa land grant, as noted earlier in this section under Boundary Demarcations.

In total, there are 27 buildings, 18 structures, and 1 object on the Canoa Ranch Rural Historic Landscape. Within the three discrete clusters, all of the buildings and structures are contributing resources with the exception of four structures that do not meet the age criterion: three structures within the Headquarters (Slab and Wall Remnants [No. 22 and No. 23] and the Water Tank [E]) and one structure within the South Residential Cluster (Stock Tank). Because it was impossible to make a complete inventory of the many landscape features on the ranch, the 18 structures in the district include three *categories* of structures (Concrete Irrigation Features, Earthen Water-Control Features, and Abandoned Agricultural Fields); the exact number of features in each category that exists in the district is unknown. The precise age of most of these features is also unknown, but the history of land use at Canoa Ranch strongly suggests that almost all structures outside the three clusters are also at least 50 years old.

Property Types

Table 1 organizes by property type the buildings and structures (including agricultural features) found on the Canoa Ranch Rural Historic Landscape. The property types are based on the ones suggested in the MPDF, *Cattle Ranching in Arizona, 1540–1950* (Collins 2002:F81–F93), with minor modifications. The table has separate sections for the three clusters identified at the ranch—Headquarters, South Residential Cluster, Canal Head Cluster—and a section for features not belonging to a cluster, or At-Large Landscape Features. The discussion that follows the table is organized in the same way.

Nearly all of the buildings and structures are contributors; that is, they are over 50 years of age and have sufficient integrity to convey their historic significance. On the Headquarters map (see Figure 23), the buildings inventoried by CDG Architects in 1995 are labeled with numbers, which also appear in Table 1; buildings and structures documented for the first time in this nomination are assigned letters or are simply labeled with their names. On the South Residential and Canal Head Cluster maps (see Figures 24 and 25), buildings and structures are labeled only with their names. Because it was not possible to make a complete

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Table 1. Buildings and Structures on the Canoa Ranch Rural Historic Landscape

Map No. or Letter	Building or Structure	Year of Construction	NRHP Status*	Style
Headquarters Cluster				
<i>Ranch Houses and Related Buildings</i>				
1	Big House (Howell Manning, Sr., family house)	1935 (present appearance; possible earlier core)	C	Early Ranch (architect John W. Smith)
2	garage	ca. 1935	C	n/a
3	guest house	1952 (build-out; original earlier)	C	Spanish Colonial Revival
4	Howell Manning, Jr., family house	1935 (bedroom wing; possibly earlier); 1948 (addition)	C	Early Ranch (architect John W. Smith)
<i>Auxiliary Ranch Buildings and Structures</i>				
5	employee's house	post-1935	C	Vernacular, gable-front-and-wing
6	employee's house	post-1935	C	Spanish Colonial Revival
10	foreman's house	possibly 1901-1915	C	Transitional
11	chicken coop/laundry shed/garage	post-1935	C	n/a
17	bunkhouse	1948-1955	C	Vernacular, side-gabled linear-plan
18	barbecue/shelter	1948-1955	C	n/a
19	slab	unknown	NC (1)	n/a
20	employee's house	post-1935	C	Vernacular, side-gabled massed-plan
21	slab, carport	post-1935	NC (1)	n/a
22	slab and wall remnants	ca. 1965	NC (2)	n/a
23	slab and wall remnants	ca. 1965	NC (2)	n/a
A	slab, Walden House	unknown	NC (1)	n/a
7	storage/utility building	possibly 1901-1915 (forge equipment, 1940s)	C	Transitional

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Map No. or Letter	Building or Structure	Year of Construction	NRHP Status ^a	Style
8	equipment storage shed	post-1937	C	n/a
9	employee's residence	possibly post-1915	C	Transitional
12	hay barn	post-1935	C	n/a
13	stalls	ca. 1954	C	n/a
14	chicken shed	post-1935	C	n/a
15	hay barn	post-1935	C	n/a
16	weigh station	1935-1954	C	n/a
C	corrals	post-1917; rebuilt and expanded 1935-1954	C	n/a
D	adobe walls	post-1935	C	n/a
B	pump house	unknown	C	n/a
E	water tank	recent	NC (2)	n/a
South Residential Cluster				
<i>Ranch Houses and Related Buildings</i>				
F	Murrieta House	1935	C	n/a
<i>Auxiliary Ranch Buildings and Structures</i>				
G	wash house with rooftop water tank	post-1935	C	n/a
H	corral	post-1935	C	n/a
I	storage shed	post-1935	C	n/a
Canal Head Cluster				
<i>Auxiliary Ranch Structures</i>				
—	pit silos	pre-1924	C	n/a
—	truck scale	1936-1954	C	n/a
—	feeding trough	1936-1954	C	n/a

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Map No. or Letter	Building or Structure	Year of Construction	NRHP Status ^a	Style
<i>Watering Facilities</i>				
—	earthen reservoir	1936–1954	C	n/a
At-Large Landscape Elements				
<i>Watering Facilities</i>				
—	Canoa Lake	pre-1924	C	n/a
—	Canoa Canal	1893–1894	C	n/a
—	concrete irrigation features	1910–1954	C	n/a
—	earthen water-control features	1936–1954	C	n/a
<i>Agricultural Features</i>				
—	abandoned agricultural fields	1936–1954	C	n/a
<i>Miscellaneous Features</i>				
—	railroad	1909–1910	C	n/a
	land-grant survey marker	1900	C	n/a

^aC = contributing; NC (1) = noncontributing, lacks integrity; NC (2) = noncontributing, post-dates period of significance.

inventory of the many at-large landscape features on the property, some features are described only in general terms and Table 1 does not indicate how many examples exist. The locations of the principal at-large features are indicated on the overall site map (see Figure 6).

Almost all of the buildings, structures, and objects described below are considered contributing properties of the Canoa Ranch Rural Historic Landscape. The exceptions are five concrete foundation slabs (designated by the letter A and by Nos. 19, 21, 22, and 23 in Table 1) that lack integrity or are too recent in date, and a water tank (designated by the letter E in Table 1) that is too recent in date. The status of each property as contributing or noncontributing is indicated in Table 1. In the descriptions below, the status of a property as contributing or noncontributing is noted only when the property is noncontributing.

Headquarters Cluster. As the focal point of the ranch throughout its history, the Headquarters is the most important cluster of features on the ranch. It has a distinctive assortment of white-stuccoed adobe buildings, open-post metal-roofed shelters, corrals, and freestanding adobe walls, all over 50 years old. Residential and working zones are separated by a driveway formed by the freestanding adobe walls; cattle were once herded along the driveway into the corrals that stand at the south end of the Headquarters. The buildings and other features in the Headquarters are vernacular or architect-designed and draw from prevailing Mexican and Anglo-American traditions.

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Although vacant, boarded up, surrounded by chain-link fence, and showing signs of long neglect, the Headquarters today is generally well preserved and still conveys a strong sense of the integrated functional and architectural whole that it once was. Approaching the complex from the ranch entrance, one first sees small, random clusters of simple, white-stuccoed buildings screened by white-stuccoed walls, all with the patina of age. Passing between the residential and working portions of the cluster, one is funneled by the adobe walls into a generous, graveled open area. A gate on its northeast side opens to a short driveway leading directly into the owner's compound, which consists of four loosely arranged white-stuccoed buildings: the Manning family's two large, shingle-roofed houses, a guest house, and a centrally placed garage. Yard areas, once of grass, are now bare, but recently planted poplar trees and simple groupings of shrubs are green, thanks to watering by Pima County. The vegetation within the Headquarters as a whole is much more limited than during the period of significance, the result of decades of neglect. A few old mesquite trees have hung on near the buildings, and a mesquite thicket is present along the east side of the Headquarters, extending south along the old canal, but the many large native and non-native trees seen in early photographs of the ranch are gone (except for several dead examples).

South of the owners' dwellings, separated by a hedgerow of small trees, is the ranch foreman's house, probably the oldest building in the Headquarters. This house, which is separated from the central open area by the same adobe wall, is a long, high, rectangular building with a screened porch. Across the open area to the west is a walled enclosure, devoid of vegetation, containing a ranch employee's house and the exposed floor slab of a former house. Directly south of the walled enclosure and still on the west side of the central open area, a stuccoed storage building connects with a long, open-pole equipment storage shed. Farther south, beyond the open area, is a complex of corrals and metal-clad sheds. The Headquarters, which at first glance seems disorganized, actually consists of several discrete groupings of informally arranged buildings and structures: the owner's residential compound on the east; an employees' residential compound on the west; and utilitarian and livestock-related buildings and structures on the south. These groupings, which reflect social and functional distinctions in the Headquarters, are linked by the central driveway and open area. Despite the wide variety in the sizes and functions of buildings, they present a distinctly unified appearance. With its informal cluster arrangement and its central driveway, the Headquarters conveys an inward focus. This is reinforced by the limited views it offers of the spectacular mountain skyline to the east, a skyline that is clearly visible from every other part of the ranch but here is mostly screened by buildings and the nearby mesquite thicket.

Architectural Styles and Vernacular Types. Most of the Headquarters residences, one of its major utility buildings, and the freestanding walls of the central driveway are unified by the common use of adobe. Stucco cladding and white paint are nearly universal on these features. The other utility and livestock buildings in the Headquarters are open sided, with trusslike gable roof framing and corrugated metal roofing supported by wood posts or steel pipe columns. The sturdy corral fences are built of logs, planed wood, and steel pipe using three different techniques.

Most of the buildings and structures in the Headquarters are vernacular. That is, they are commonplace types built by ordinary local builders using locally obtained or produced materials. The use of adobe,

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rectilinear plans, flat roofs, and tall, flat façades in the earliest buildings is evidence of a strong Mexican—specifically Sonoran—influence, but because they also incorporate occasional elements introduced by Anglo-Americans, such as wood porches and sheet-metal roofing, these buildings are classified as Transitional, an architectural style described for southern Arizona by Sobin (1975) and discussed further in Section 8. These buildings were probably built by Mexican workmen, using adobe blocks made on site. The later pitched-roof employees' dwellings are examples of Anglo-American vernacular types built of adobe. The utility and livestock shelters and corrals are also examples of commonplace local construction.

Two of the later dwellings in the Headquarters have features borrowed from the earliest Transitional buildings, such as stuccoed adobe, corbelled parapets, flat roofs, and *canales* (pipe roof drains). These dwellings are modest examples of the Spanish Colonial Revival style, a fashion popular in the Southwest during the first decades of the twentieth century. With their lower wall height, characteristic plans, and elements like steel-casement windows, these dwellings are really Anglo-American vernacular examples that incorporate modest Spanish Colonial Revival details.

The most noteworthy styled architecture in the Headquarters is not vernacular but instead the work of a professional, Tucson architect John W. ("Ginger") Smith, who designed the two owners' residences. Both residences are examples of the Ranch style and date back to 1935, with 1948 additions. Smith designed similar rambling, Ranch-style dwellings with wide, stuccoed façades and shake-clad gabled roofs for wealthy clients in Tucson. Smith won an award for his use of glass in the design of the main ranch house at Canoa (see Section 8).

Construction History. Nineteenth-century maps indicate the presence of two buildings near the location of today's Headquarters, but it is not known whether the earliest extant buildings predate or coincide with Levi Manning's purchase of the ranch in 1912. The photographs in Caton MacTavish's 1924 brochure depict several similar, Sonoran-type, parapeted buildings, which he described as components of Manning's "hacienda of Mexican style buildings"; the buildings are set in a scraped-dirt "plaza" (MacTavish 1924: 35). Although most of these buildings no longer stand, the Transitional-style Foreman's House (No. 10) does. The MacTavish photograph shows that the adobe walls that now surround the central driveway had not yet been built in 1924. The badly deteriorated Storage/Utility Building (No. 7) also appears to date to the 1920s. However, this building cannot be clearly discerned in the 1936 aerial photograph of the ranch, even though other early buildings are visible.

Most of the buildings and structures in the Headquarters today were apparently built at the instigation of Howell Manning, Sr., who became ranch manager in 1924 and ranch owner in 1935. With the services of architect Smith, Howell Sr. built a large residence and an ancillary bedroom building in 1935; his family lived part of the time in this residence and part of the time in Tucson. According to Ms. Manning-Catron, this ranch residence may have been an enlargement and modification of an earlier dwelling. In 1949, Howell Sr. and his wife moved to Canoa Ranch permanently to join newlyweds Howell Jr. and Deezie (Ms. Manning-Catron). Most construction in the Headquarters occurred after 1935, and there was apparently an era of intense construction activity on the ranch as a whole for a few years beginning in 1949.

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The large residence and its ancillary building appear on the 1936 aerial photograph, as does a large barn located in the vicinity of the extant Equipment Storage Shed (No. 8). In 1937, the barn and other livestock-related buildings burned down (*ADS*, 22 October 1937). Stacked-mesquite (*retaque*) corrals already stood south of the barn in 1936, although the present corrals were probably the later work of Howell Manning, Sr. The next available aerial photograph, taken in 1954, shows that virtually all of the major buildings and structures were on-site by that year.

Ranch Houses and Related Buildings

Big House (Howell Manning, Sr., Family House) (No. 1). The main ranch residence, long known as the Big House, is an architect-designed, stuccoed-adobe dwelling in the early Ranch style (Figure 26). Located in the owner's residential zone east of the central driveway, this house was built in 1935 for Howell Manning, Sr. and his second wife. According to Ms. Manning-Catron, the Big House may incorporate elements from an earlier dwelling of unknown date. The 1935 construction date and the use of the services of Tucson architect John W. Smith are well documented (*Architectural Forum* 1937:78; Hadley 2000:13).

The rambling Big House was carefully oriented to the east, toward the riparian strip of the Santa Cruz River and the dramatic backdrop of the Santa Rita Mountains. Its size and location reflect its importance in the social hierarchy of the Headquarters. It has white-painted, stuccoed-adobe walls and gabled roofs of deteriorating wood shingles. The main roof is a belled gable, pitched steeper at the center and lower at the eaves. Rather than the exposed-rafter treatment found in the later Ranch style, the eaves and rake soffits are rounded and boxed with stucco. Gable vents are formed by groups of four missing adobes.

The elongated, side-gabled, principal façade faces east with a shed extension to incorporate an entry vestibule and glazed terrace. The main entry is on the south end of this terrace. Two additional entries serve the kitchen area on the west. Openings are currently boarded but windows and doors can be observed from inside. Foundations are concrete and the floor level is above grade over a crawl space.

Matching, aligned chimneys appear on the principal, gable-end walls. Each is battered, slightly off-center from the ridge, and has a rounded reveal at the cap. Chimneys also serve the living room fireplace and the east wall of the master bedroom. The latter chimney is substantially proportioned with straight sides and a rounded cap.

Tile terraces serve the main and kitchen entries. The main entry has an open stoop paved with terra-cotta tiles. Starting at the edge of this stoop, along the east wall is a series of low, 4–6-inch-thick, concrete planters punctuated by regularly spaced, squared pilaster/planters. The 1937 photograph in *Architectural Forum* shows evergreens in today's weed-filled planters (Figure 27). The kitchen porch, between flanking gabled utility rooms, is paved with red terra-cotta tiles and sunken planting strips. A *ramada*, built of thin slats over dimensional lumber, is attached above to the walls of the flanking rooms.

The main entry has a pair of tongue-in-groove plank doors. The kitchen and breakfast room entries on the west have original single-panel, single-light doors. The windows are wood-frame fixed or casement types.

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Unique, large, single-pane casements flank the dining room fireplace. Combined with the series of fixed and 4-light casements that illuminate the breakfast room and adjoining hall, this corner of the house was a light-filled space, well remembered by Ms. Manning-Catron and Ms. Schnauffer.

The enclosed, glazed terrace, for which architect Smith won a prize in 1937, is located along the long rear façade of the house and is deliberately oriented to take maximum advantage of the mountain views to the east. The terrace is divided into two sections. On the south, large, 5½-foot-high picture windows, separated by wood posts, enclose the section adjacent to the entry; the windows are slipped into slots and clipped by trim at the top only. On the north, a second section features a full-width, heavy-frame window wall, one panel of which is a 5½-foot-wide sliding door. The master bedroom windows are fixed and slipped into slots. The master dressing room and bath have boxed windows in which the central panel is fixed and the side panels are operable casements.

Typical of the Ranch style, the plan of the Big House is rectilinear and elongated. Cross-wing elements include a pair of utilitarian rooms on the southwest end, near the kitchen, plus a 1940s master bedroom addition on the north end. This large ranch house includes elegant living spaces, a roomy, practical kitchen, and other amenities similar to what would be found in an upscale, historic Tucson residence built on an ample lot. Except for the visually compatible addition of the master bedroom suite and some minor interior remodeling, the residence has remained unaltered since 1935. Its condition is fair and its integrity is excellent. The Big House is an outstanding example of quality adobe construction in the early Ranch style as interpreted by master architect John W. Smith. Well suited to its natural and built environment, its style, construction materials, view orientation, and relative size clearly communicate its status as the ranch owner's house. Features like the battered chimneys, belled gable, glazed terrace, and custom windows are signature design traits of the architect.

Garage (No. 2). Like the Big House, this two-car garage was probably built around 1935. It is a front-gabled, wood-frame structure clad in stucco and painted white. Its eaves are rounded, and it has a wood shingle roof to match the other buildings in the owner's residential zone. The garage is built on a concrete foundation that forms a plinth at the base. A band of 3/3 wood-frame, fixed windows is installed on the east and west façades.

Howell Manning, Jr., Family House (No. 4). This rambling, white-stuccoed, Ranch-style house is located at the west end of the owner's residential zone. It is sited to view the Big House and the rather prominent garage. The impressive size and location of this house marks its original importance as the home of the Manning heir.

In the typical "additive tradition" of a southern Arizona ranch house (see Section 8), this residence was built in two phases (Figure 28). A freestanding, adobe dormitory building, shown on the 1936 aerial photograph and occupied by the two sons of Howell Manning, Sr., was later incorporated as its south wing. An early photograph shows the dormitory building with a shed-roofed, east porch supported by rustic tree posts (Figure 29). In 1948, a second wing, designed by architect John W. Smith, was added to create a fully

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functional residence for Howell Manning, Jr. and his wife. This wing included a breezeway connection, a living room/dining room, a kitchen, and a utility room. The former dormitory porch was enclosed to create a sunroom as well as an indoor passageway from the bedrooms to the new communal areas of the house. In addition, a dressing room and outdoor storage space were added adjacent to the north bedroom. Interior partitions were mostly adobe.

Matching the Big House with respect to materials, the Howell Manning, Jr. House has stuccoed-adobe walls and wood-shingle-clad gabled roofs of different heights that abut in three distinct sections. Eaves are boxed and stucco-clad. There are stuccoed chimneys for the three fireplaces. At present, the window and door openings are boarded up on the exterior and can only be examined from inside the building.

The principal, northeast façade is elongated with stepped setbacks that differentiate the spaces inside. The gable ridge is lowest over the bedroom wing and steps up 2 or 3 feet for each section to the north. The majority of rooms inside this façade have picture windows, but the large expanses of glazing are currently boarded up. The main entry is into the narrow breezeway, which features matching door assemblies on the east and west walls. The west doorway opens onto an enclosed courtyard area that integrates a portion of the adobe wall that stands along the east side of the driveway. Both door assemblies consist of a pair of custom-made double doors with wood spindles built inside the glass, plus flanking sidelights.

A cross gable is introduced over the dining room, the south part of the kitchen, and the utility room to the west. On the north façade, the dining room corner features a box bay window with a shingle-clad hipped roof. The kitchen has a front gable wing. The west façade presents an interesting shingled, side-gable, white-stucco-dominated view with setbacks, centered on the generous courtyard space. The small utility room on this side has a frontal gable wall.

The foundations of the original and newer wings are concrete stem walls. The foundation forms a visible plinth on the west bedroom and south sunroom walls. The finished floor level averages approximately 8 inches above grade, and all floors are slab on grade. The stuccoed-adobe walls have concrete window sills. Windows are steel sash and include picture, casement, and bay types.

The interior is noteworthy for its interesting informal spaces and ample use of appropriate regional materials. Adobe walls are plastered inside and out. Most floors are scored concrete. The ceiling of the living room/dining room is of exposed, rough-sawn, framing members. Flagstone, mortared in a random pattern, is found on the sunroom floor and used in the living room fireplace. The kitchen features built-in, custom cabinetry of Mexican cedar.

This house is an excellent example of the work of master architect John W. Smith and of the additive tradition characteristic of southern Arizona ranch houses. It suits its built and natural environment in every respect. The rich, warm, regional materials employed in its construction and finishes, and the skill with which the earlier building is integrated into the whole, demonstrate a sensitive and sophisticated design. In fair condition, the integrity of this residence is excellent.

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Guest House (No. 3). This small, white, stuccoed-adobe dwelling, consisting of a living room/bedroom, dressing room, and bath (these functions were remembered by Ms. Manning-Catron), was built as a retreat for Howell Manning, Sr. after the death of his son, Howell Manning, Jr. According to Ms. Schnauffer, the guest house was built by remodeling and adding onto an earlier adobe structure that contained a saddle room and a space where Manning's sons were tutored. The earlier building may have become the living room of the guest house. The style is modest vernacular Spanish Colonial Revival.

The exterior walls of the Guest House have parapets with a corbelled cornice and flat roof. Centrally located on the east façade is a stepped, stuccoed chimney with a corbelled cap and clay flue. There are two shed-roofed porches, one supported by stripped tree trunks on the north entry façade and one supported by wood posts on the east façade. To the south is a single-bay carport *ramada*. Roofing for the sheds is asphalt tile. The north porch has a mortared, gray stone pavement with the initials of a family member, "LLM," and a date, "April 22 . . ." (1952, according to Ms. Manning-Catron) inscribed in the mortar.

The foundation is concrete, and there is a 12-inch plinth on the east wall that becomes level with the carport concrete slab on the south wall. The structural floor is slab on grade. The living room walls are 18-inch-thick, stuccoed mud adobe. Windowsills are concrete with a sloped face. The entry door is custom built of tongue-and-groove planks and a custom, wrought-iron door handle. Windows are steel sash, and there are operable casements as well as fixed picture types.

The long axis of this building follows a southeast-northwest orientation. The plan shows a thick, adobe-walled, rectangular living room/bedroom and an irregular-plan portion on the northwest end containing a small dressing room with closets and a bathroom. The thick living room/bedroom walls are beveled at the window jambs. The most noteworthy character of the interior is the use of walnut on the walls, ceiling, and floors of the living room/bedroom and dressing room. This wood gives a warm, inviting look to these spaces.

The Guest House is in good condition and its integrity is excellent. It represents the additive tradition that characterizes many southern Arizona ranch houses and it complements perfectly the other adobe residences in the Headquarters.

Auxiliary Ranch Buildings and Structures

Employee's Houses (Nos. 5, 6, 20). All three of these Employee's Houses are Anglo-American vernacular in style and apparently post-1935 in construction. One (No. 6) has a typical Anglo-American wall height, a symmetrical U-plan around a shed entry porch, and steel casement windows, but Hispanic stylistic influences are evident in its flat roof, parapet walls, and corbelled-parapet cap. This modest Spanish Colonial Revival-style dwelling was possibly built to complement the original flat-roofed buildings in the Headquarters. Although purely conjectural, the introduction of the pitched roof to the ranch in 1935, when the Big House was built, may have influenced the development of the other two Employee's Houses (No. 5 and No. 20), because both have pitched roofs and typical Anglo-American vernacular forms. The three houses do have stuccoed-adobe walls in common.

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One Employee's House (No. 20) was apparently a simple, linear-plan, three-room, side-gabled dwelling when it was first built; shed additions were later made to the west and east façades. The west addition now forms an L shape for an entry porch, supported on one end by a stripped tree trunk post. The east addition appears to be an enclosed former porch. The roofing is asphalt shingle. According to CDG Architects, window types include wood double-hungs, casements, and aluminum sliders. The CDG plan shows eight rooms. The floors are described as scored concrete and there is a brushed-brick corner fireplace in the living room.

Another Employee's House (No. 5) has a typical, gable-front-and-wing principal façade with cross-gable roof forms. Its stucco is currently painted a pinkish tan and its roofing is corrugated metal. The most noteworthy features include, along the flanking wing, a front porch on heavy, stuccoed piers with a knee wall, and a substantial exterior chimney with a stepped base on the south side of the frontal wing. The dwelling features triple 2/2 wood casement windows with concrete sills and 3-light wood French doors.

Bunkhouse (No. 17). The burnt-adobe residence known as the Bunkhouse is a rectangular, linear-plan, side-gabled vernacular building with a small bathroom wing on the rear. It is located due west of the corrals. Built after 1948, it features a corrugated metal roof with overhang, steel casement windows with concrete lintels and sills, and two front doors. There is a burnt-adobe chimney on the south façade. Just west of the residence is the small, covered, burnt-adobe Barbecue/Shelter (No. 18).

Foreman's House (No. 10). This residence is located at the southeastern end of the owner's residential area, on the east side of the central driveway. The long, linear-plan, stuccoed-adobe building lies some distance south of the Big House and opposite the Employee's Residence Addition (No. 9). As noted above, this building appears in the 1924 MacTavish brochure as one of several "Mexican style" buildings in the Headquarters. As the largest employee's residence, it reflects the important role of the ranch foreman, but it is sited less desirably than the Big House, near the corrals and facing north rather than east.

Because of multiple doors and a lack of internal passageways, the Foreman's House is commonly mistaken for a bunkhouse (Figure 30). However, Ms. Schnauffer and Ms. Manning-Catron claim it has always been a single-family residence, at times used by the ranch foreman's family. In a single family residence, a linear arrangement of spaces, each with a doorway that exits outside, is a typical Mexican vernacular trait. The photograph in the 1924 MacTavish brochure shows high Sonoran walls and a typical shade *ramada* clad in native-plant thatch supported by tree trunks (Figure 31). The photograph does not show an early room addition at the east end. The extant screened shed porch on tree trunks is likewise a later addition, probably more than 50 years old.

The Foreman's House has very high, flat, 18-inch-thick parapet walls with a corbelled cap, rising approximately 15 feet above grade. There are two fireplace chimneys. Because the east room, a living room added after 1925, is larger and stepped back from the other rooms, the north and south façades are not completely flush and have setbacks. Regularly spaced circular metal *canales* project from the north and south walls and from both narrow end walls, indicating that the roof, obscured by the tall parapets, is slightly pitched.

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Windowsills are sloping concrete. Windows are steel or wood casements. Foundations are concrete, with most room slabs nearly at grade. The living room has higher concrete stems and a finished floor 14 inches above the porch grade. It is accessed by two concrete steps. A concrete plinth of variable width appears on the exterior walls. The roof is a wood joist-and-beam system. Exposed *vigas* show on the exterior walls of the living room section only.

On the principal north façade is an asphalt-shingle-clad, shed-roofed, screened porch. The porch is supported by 10 8-inch-diameter stripped tree trunks, approximately 9 feet on center. The outer edge of the porch features a low knee wall capped with terra-cotta pavers in colored mortar. The porch slab is scored. The screen is mostly missing today but there are 32-inch-wide screen doors at each end. Within the porch, the building façade contains a row of six boarded-up doors. Visible from inside, these doors are early, two-panel types with a single large light.

The east and west façades have simple, flat walls. There is a boarded-up window on the east façade. The south façade is noteworthy for its living room setback, its projecting fireplace chimneys, its boarded-up windows for each interior bay, and a small, asphalt-shingle-clad shed porch adjacent to the west living room wall. The living room fireplace chimney projects from the wall and is built of red brick. The chimney is wider at its base, has one step before it narrows, and corbels at the level of the parapet cap. The fireplace chimney for the second bay from the west has a very slight reveal and straight sides with a rounded, corbelled cap. There is a V-shaped, stuccoed cap above the flue.

The function of the rooms in this residence was described by Ms. Schnauffer. As mentioned, the largest room of the dwelling, at its east end, is the living room. The focal point of the room is a painted-brick fireplace with wood mantle, flanked by built-in bookshelves beneath fixed wood-frame windows. The next room west is the kitchen, then a bay that contains a bathroom and a closet, accessible from the next room west, the master bedroom. The master bedroom has a centrally located, painted-brick fireplace on its south wall. The westernmost room was the children's bedroom; it also has a steel casement window with transom above. There is a standard four-panel wood door between the two bedrooms. The partition wall between is 12 inches thick.

Chicken Coop/Laundry Shed/Garage (No. 11). This small building is located to the south of the Foreman's House and near its east end. It is divided into three sections corresponding to the three functions in its name. It is probable that the chicken coop to the east was built the earliest, and the laundry and garage were added later. The sections are of wood-frame construction on concrete slabs. The chicken coop has a metal-covered, double shed roof with clerestory windows. The other sections have an asphalt-shingled shed roof. The walls are clad in horizontal and vertical siding.

Slabs (A; Nos. 19, 21, 22, 23). Five concrete foundation slabs are found within the Headquarters cluster, representing the locations of former buildings. All five slabs are considered noncontributing resources and are included as buildings here simply to help convey the earlier layout of features in the Headquarters. One slab (A) is located just southeast of the Employee's House (No. 6) and is the remains of a house once used

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by ranch employees Dave Walden and Andrea Martinez. The date of construction of the slab and the house it once supported is unknown. Because of the poor resolution of the 1936 aerial photograph, a building in that location cannot be discerned, but one does appear on the 1954 and 1979 aerials; it was demolished sometime thereafter. Another slab (No. 19) is located about 120 feet south of the Bunkhouse (No. 17); the function and construction date of the building it once supported are unknown. Another slab (No. 21), located southeast of the Employee's House (No. 20), probably supported a carport or garage. Judging by the aerial photographs, the building was demolished sometime after 1979. Two other slabs (No. 22 and No. 23) are located just north of the access road and near the western edge of the Canoa Lake; each slab has wall remnants consisting of the first courses of uncompleted burnt-adobe walls. According to Ms. Schnauer, these features were constructed in the 1960s to serve as part of a movie set.

Storage/Utility Building (No. 7). This is a Transitional-style building and possibly one of the earliest features on site. It is divided into five chambers that had utilitarian functions when Ms. Schnauer and Ms. Manning-Catron lived on site. These women dispute claims that there was once a school located here. The building is attached to the open Equipment Storage Shed (No. 8), built a few decades later, on the southwest end. On the south end of the east façade is the Employee's Residence (No. 9) that also may have been a later addition. The Storage/Utility Building has a U-shaped plan, composed of linearly arranged spaces that form around a shed-roofed east porch supported by a stripped tree trunk post.

The building features a high, flat, Sonoran west façade with parapets that maintain the same height around the perimeter. The parapets have stepped reveals at the cap, similar to those on the Foreman's House (No. 10). The north and west façades are simple and flat, and the east façade has plain flat faces on the setbacks generated by the U plan. Circular metal *canales* protrude from the walls. The stuccoed-adobe walls have concrete lintels and sills. Windows are 6/6 wood, double-hung or sliding; braced board-and-batten doors are located on the west and south façades. The roof is supported by beams pocketed in the adobe walls.

The five interior chambers include a large tack room on the south end, entered from a south door. There is a blacksmith's shop to its north. According to Ms. Schnauer, the forge equipment was installed in the 1940s. Two smaller storage rooms, equipped with shelving, flank the porch. The largest chamber on the north was used to store salt at one point during Ms. Schnauer's residency. The building is in poor condition today, especially the north chamber, where the end wall is braced and the east wall and roof are missing. Elsewhere, large areas of stucco are breaking off, and the roof is leaking.

Employee's Residence (No. 9). The east wing of the Storage/Utility Building (No. 7) is a small, linear-plan, two-room, stuccoed-adobe addition in the Transitional style, which served as another Employee's Residence. The parapet walls of this building are lower than those of the building to which it is attached. An asphalt-shingle-clad shed porch on three stripped tree trunk posts is located on the north, where 3-foot-high adobe walls form a small enclosed courtyard. There is a small, corrugated-metal-clad, shed-roofed, toilet room addition on the southeast corner. Boarded-up windows are steel and wood casements. There are two chimneys (but no fireplaces); one is stuccoed, the other is exposed brick.

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Equipment Storage Shed (No. 8). This building was constructed in the approximate former location of a large barn identified by Ms. Schnauffer and visible on the 1936 aerial photograph. The barn burned down in 1937. This shed may have been built in the early 1940s and was definitely in place by 1947, according to Ms. Manning-Catron. It was used to shelter such equipment as a bulldozer, trucks, and a manure wagon. This long, rectangular-plan building has a gabled, corrugated-metal-clad roof on exposed rafters stabilized by collar beams. The roof is attached to three parallel rows of 6-by-6 wood posts set on concrete bases and braced by diagonal members. The shed is open except where it is partially enclosed on the upper half of the south and west façades by corrugated metal siding.

Stalls (No. 13). The 1954 aerial photograph shows that several corrugated-metal-roofed sheds were in place in the Headquarters by that year. According to Ms. Schnauffer, one of the sheds, usually called the Stalls, was built around 1954 for her family to hold 4-H calves and show-quality quarter horses. This building is in very good condition. A typical open-pole structure with a corrugated-metal roof on king-post wood trusses, it is supported by 12 steel posts. Stalls are formed by a variety of fencing used elsewhere in the corrals, including stacked tamarisk (salt cedar), iron pipe, and plank. The stalls open to the north by wood gates into two separate corrals. The rear of each stall holds a wood feeding trough and a metal water trough.

Hay Barn (No. 12). Another shed in good condition is the two-level Hay Barn, which is connected to a built-in wood feeding trough. The west half has a concrete floor raised 4 feet on fill retained by a concrete wall, whereas the east half is a grade-level dirt floor. There are concrete steps to accommodate the level difference. The corrugated-metal roof is supported by king-post trusses with purlins. The west half has frame walls clad in corrugated-metal siding, whereas the east half is open and the roof is supported by four iron posts on a concrete stem wall. Hay is unloaded into the building through a sliding wood-frame-and-metal door. From inside, hay can be thrown into the feeding trough.

Chicken Shed (No. 14). The simple Chicken Shed has a small, wood frame with a corrugated-metal roof and is located just east of and outside the Corrals (C). It appears to lack foundations and its framing is set directly into the ground. It is sided with wood planks, slats, and chicken wire. In addition, there is a small, chicken-wire-enclosed plot attached to the east.

Hay Barn (No. 15). Another shed, consisting of an open-pole building on six steel posts, once served as a second Hay Barn. It is located just beyond the southern limit of the Corrals (C). Its four low "walls" are formed by stacked-wood fencing. The corrugated-metal roofing has blown off in places, and the stacked fences are collapsing.

Corrals (C). According to Ms. Manning-Catron, the sturdy Corrals were the pride of Canoa Ranch. These features are in remarkable condition today because they were built carefully with a variety of durable materials and fencing methods. Corrals where cattle are handled must be able to withstand the impact and occasional unruliness of such heavy animals. These Corrals are divided into at least 10 rectangular enclosures of different sizes to hold cattle and accommodate various handling procedures. Narrow passageways funnel the cattle into different series of compartments. One progression leads to a metal squeeze chute, a weigh station, and a ramped loading chute on the southwest corner of the Corrals. On the northwest corner of the

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corrals is an enclosure that holds a large concrete watering trough. Inscribed on the east end of the trough is the registered Canoa Ranch brand, "Quarter Circle DV Bar."

Ms. Schnauffer remembers that a much smaller set of mesquite corrals once stood in the area south of the Equipment Storage Shed (No. 8); the extant corrals represent replacement and enlargement work by Howell Manning, Sr. on an existing set of large corrals. Three principal techniques were used to construct the corral fences: (1) *retaque*, or the horizontal stacking of wood between pairs of vertical posts; (2) post and rail, or horizontal rails attached to regularly spaced posts; and (3) vertical fencing, or a bank of vertical members attached at points to posts and stabilized by horizontal members.

The *retaque* corrals at Canoa Ranch use native, site-cleared posts and stacked logs, traditionally of mesquite but also of nonnative tamarisk. *Retaque* corrals were once very common in the region. The post-and-rail corrals are of dimensional lumber or combine dimensional lumber with steel pipe in one of two ways. The first uses concrete-filled 8-inch steel posts to which 2-by-6 (or wider) horizontal rails are bolted; the second uses heavy timber posts, between which five 8-inch pipes, specially splayed at the ends for bolting, are attached. (Ms. Manning-Catron remembers that much of the custom ironwork at the ranch, including the pipe splaying, was done by a well-known Tucson specialist named Flores.) The vertical corral fencing at Canoa Ranch tends to be a bank of heavy dimensional lumber, similar to railroad ties, secured by a horizontal rail at the midpoint and the top. Sections are then attached to embedded, concrete-filled steel posts.

Weigh Station (No. 16). The Weigh Station is located on the south edge of the Corrals (C). At Canoa Ranch, cattle were sold directly from the corrals to buyers who paid by the pound, and it was necessary to weigh each animal before purchase. The components of the Weigh Station include a shelter with a slightly sloped, corrugated metal roof on rough-sawn rafters supported by beams connected to four steel-pipe posts. A tall, rectangular, metal Howe scale rests on a concrete slab outside the corral walls. Cattle were weighed on a platform north of the scale. The Howe Scale Company, in operation from 1856 to 1961, was a world-renowned manufacturer of high-accuracy weighing instruments. Operating since 1873 out of Rutland, Vermont, the company produced instruments that ranged from small shop examples to long, railroad-track scales. The Howe scale at Canoa Ranch could weigh objects up to 30,000 pounds.

Adobe Walls. The freestanding Adobe Walls (D) flank the central driveway, creating an open area at the center of the Headquarters. The walls are approximately 4 feet tall, stuccoed, painted white, and capped by a painted concrete coping. Portions of the walls are deteriorating, with large patches of stucco missing in places. A segment east of the Employee's Residence Addition (No. 9) is collapsing and no longer has a concrete coping. The walls were built after 1925 to route cattle to the Corrals and prevent them from straying into the residential areas. The walls separate the owner's residential area on the east from the employees' residences and working areas on the west. Where the barrier is discontinuous along a segment east of the Storage/Utility Building (No. 7), there is a post-and-rail fence.

Pump House (B) and Water Tank (E). A small gabled-roof building with vertical wood siding located west of the Employee's House (No. 6) once housed a pump (B). The building stands near a steel water tank (E) of recent vintage, but a water tower once stood in the location of the tank. The Pump House is in

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a deteriorated condition and of undetermined age, but it probably dates to the period of significance; it is considered a contributing property. The Water Tank is too recent in date to be considered a contributing property.

South Residential Cluster

The South Residential Cluster consists of a small employee's residence called here the Murietta House (F), a Wash House (G) with a rooftop water tank, a Corral (H), and a small Storage Shed (I) (see Figure 24). This cluster of features is accessible from the Interstate 19 frontage road via a dirt road, or by driving south from the Headquarters on the main north-south ranch road (see Figure 6). The cluster is situated at the western edge of the floodplain, on a low terrace supporting an occasionally dense cover of mesquite and brush.

This cluster is a small but cohesive collection of domestic and ranching-related features with good integrity, and each of its four elements also contribute individually to the Canoa Ranch Rural Historic Landscape. The house has been rehabilitated for its current tenant, a Pima County employee who serves as caretaker of the ranch; the other features are abandoned and unmaintained but still convey their original functions. The current tenant raises chickens in a mobile chicken coop and stores a mobile home on the property; he has also installed a portable spa on the premises. Pima County recently made improvements to the well and electrical service.

Howell Manning, Sr. constructed the burnt-adobe Murrieta House in the 1930s for the David Murrieta family. Murrieta was in charge of irrigation facilities at the southern end of Canoa Ranch (Van West 2003: 44-45). Through the period of significance, the large floodplain area east of the house was an important part of the ranch's cultivated acreage; a small field south of the house was cultivated by the tenant. The corral and other ranching structures indicate that the tenant kept livestock, including horses and perhaps smaller stock such as goats, sheep, or hogs.

The boundaries of this small, self-contained cluster are not fenced and are instead defined by its clearing, a level area surrounded on the south, west, and north by mesquite growth. The eastern side of the cluster, fully open to the view of the Santa Rita Mountains, is marked by the main north-south ranch road. The house and the distinctive water tower are the visual focus of the cluster. The other ranching structures loosely ring this domestic core, except on the east. Circulation features include the dirt access road and the main north-south ranch road; informal pedestrian pathways connect the ranching structures with the house. Directly east of the house and across the main north-south ranch road is a paved landing strip for small airplanes. This feature does not appear on the 1979 aerial photograph of the area and dates to the recent years of corporate ownership of the ranch. Vegetation within the cluster includes several large mesquites, a pair of small fruit trees, and an unidentified deciduous tree located at the southeast corner of the house.

The cluster today has a number of characteristics that reflect its association with the period of significance. The built elements largely retain their historic appearance. Although the vegetation changed with the abandonment of the ranching features, the cluster retains the feeling of the ranching period. The openness of the formerly cultivated floodplain, the enclosed feeling lent by the mesquite growth, and the unchanged view of the mountains to the east still impart a sense of an earlier time.

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Ranch Houses and Related Buildings

Murrieta House (F). This simple, parapet-walled house of burnt adobe is a regionally appropriate vernacular type vaguely reminiscent of the Sonoran Revival (also called Territorial) style. When constructed, no thought was given to the view, for the front entry faces west. The parapets, also of adobe, are painted tan and have slight corbelling at the top. A shed-front porch on posts with roll roofing incorporates two early block additions; the first, of uncertain date, is on the northwest corner, and the second, from the 1940s, is centrally located. The additions are typical of the "additive" tradition characteristic of southern Arizona ranch houses. The original windows are steel casements with heavy concrete sills and lintels. The east (or rear) façade also has a porch, part of which incorporates a recent, wood-frame room addition clad in textured plywood. All walls are painted tan; the trim is a mauve brown. Although this house has been modified, the alterations to the front façade apparently occurred during the period of significance; thus, integrity has not been compromised.

Auxiliary Ranch Buildings and Structures

Wash House with Rooftop Water Tank (G). This tall, picturesque, utilitarian structure has a strong, geometric form and is the first object seen when approaching the cluster (Figure 32). A battered wood-frame base, clad in corrugated metal, serves as the wash house. It supports a large cylindrical water tank of welded sheet metal. This tank probably served both domestic and ranching purposes. There is a narrow door on the east face of the base. About 15 feet above grade is a cantilevered wooden platform framed with timber. A rusty metal pipe, about 8 inches in diameter, feeds into the water tower from the well below. Currently, an electric well pump and separate tank have been installed on a concrete pad for the tenant's use. Although the wash house with rooftop tank is deteriorating and no longer in use, it is a landmark feature with good integrity.

Corral (H). Southwest of the house is an interesting, creatively built corral that combines timber post-and-plank fencing and steel post-and-pipe fencing. This structure, once painted white, appears to have been built from salvaged materials. Gnawed planks indicate the former presence of horses, but the structure may also have been used for cattle. The corral is in deteriorating condition.

Storage Shed (I). A storage shed measuring about 10 by 16 feet stands on the north side of the corral. This is another improvised structure with crude wood framing clad in plywood. Deteriorating corrugated metal forms the roof. On the south side of the shed, inside the corral, is an attached timber manger. Although in poor condition, the shed is picturesque and characteristic of a simple ranch outbuilding.

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Canal Head Cluster

About 1 mile south of the Headquarters, at the head of the Canoa Canal, is a cluster of ranching-related structures that resulted from the expansion of the cattle-raising and agricultural operations of Canoa Ranch under Manning ownership. The placement of these large features at the head of the Canoa Canal, the earliest extant feature on the ranch, reflects the importance of this location throughout the history of the ranch, both as the original source of irrigation water and as the place near the point where the Santa Cruz River was long most conveniently crossed. The central east-west ranch road, discussed above, passes through the cluster and once provided a link between the eastern and western limits of the ranch (see Figure 6).

Auxiliary Ranch Structures

Pit Silos. Immediately west of the Canoa Canal head are two large, rectangular pit silos, excavated into the low, natural terrace that rises here (Figure 33). The silos were constructed prior to 1924, the year they were described by MacTavish (1924) as having been "recently" built. Despite the relative certainty of this date of construction, the silos are not visible on the 1936 aerial photograph of the ranch, which probably means that they were completely filled and capped with earth when the photograph was taken. Pit or trench silos enjoyed something of a heyday in the Santa Cruz Valley and elsewhere in southern Arizona in the early twentieth century (Chamber of Commerce n.d.; Paschall 1916). The appeal was the simplicity of design and low cost of construction and maintenance. The trench silo was, as a contemporary description put it, "A ditch dug in the ground, filled with corn, and covered with hay and dirt. . . . A better or cheaper system of making silage could hardly be conceived" (Pima Farms 1925:10). Typically, one end of the trench was sloped to allow access by trucks or horse-drawn wagons. In the case of the Canoa Ranch silos, the trenches were excavated east-west into the natural slope, which accomplished the same purpose. Loaded with silage (chopped green grain and stalks), the trenches were capped with soil and hay and wetted down to allow fermentation. When the silage was ready for use as feed, it was removed by wagon or truck from one end, working in steps to the other end.

According to MacTavish (1924), the silos each held 2,500 tons of feed. Each measures about 300 feet long by 50 feet wide, and the two are separated by a 50-foot-wide strip of intact ground. The original maximum depth of the trenches is probably obscured by wall collapse and eroded soil, but it was probably at least 20 feet. Both silos have large remnants of a gunite lining on their side walls. It is unclear if the lining was an original part of the silos or if it was added later. The gunite process was first patented in 1911 (Allentown Equipment 2003) and was undoubtedly available when the trenches were dug, but judging from contemporary descriptions of trench silos, a lining was usually not required in southern Arizona.

Truck Scale. Just west of the two pit silos is the concrete foundation of a truck scale (Figure 34). The date of this feature is uncertain, but it was undoubtedly part of the Manning family's development of this cluster of features. It is not visible on the 1954 aerial photograph of the area, but this might be because it was too small to register. The scale has the appearance of a small, rectangular house basement, measuring about 12 feet east-west by 24 feet north-south by 5 feet deep, with a 3-by-6-foot alcovelike extension on its east side. An apron of green-tinted concrete surrounds the upper edge of the alcove. The upper interior edge of

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the scale foundation is rimmed with heavy right-angle steel, which protected this edge from the movement of the scale platform. The alcove housed the scale mechanism, which was connected to the platform via two or more large steel conduits visible in a small, poured-concrete slab on the interior floor of the foundation. There is no trace of the scale or the scale platform; both parts, heavy but movable, were presumably salvaged when the scale went out of service.

Feeding Trough. The remains of what was once a large cattle-feeding trough can be found just south of the truck scale. This feature consists of four east-west parallel lines of 2-inch-diameter steel pipes, arranged in evenly spaced rows (Figure 35). The pipes each stand about 18 inches above grade and have battered upper ends, indicating that they were pounded into the ground by sledge hammer. The pipes were part of a feeding trough that also included wooden elements. Scraps of railroad tie are preserved in place at a few points along the feature, running parallel to its long axis. The overall length of the trough, as preserved, is about 75 feet, but it may have been much longer originally. Several rows of pipes have been removed to allow vehicles to cross the feature. No specific information is available about when this feature was built, but it was undoubtedly part of the Manning family's development of this cluster of features. A linear feature faintly visible on the 1954 aerial photograph of the area may be this trough.

Watering Facilities

Earthen Reservoir. The largest feature in the Canal Head cluster, located immediately north of the pit silos, is a circular earthen reservoir consisting of a wide berm around an excavated depression. The interior of the reservoir is a maximum of about 10–15 feet below the original ground surface, with sides that slope downward gradually from the outer edge. The soil excavated from the depression was mounded around it to create the berm, which varies in height from 8 to 10 feet above the surrounding ground. The reservoir is slightly elongated along the north-south axis, with a maximum horizontal dimension of about 500 feet. This feature is conspicuous in the 1954 aerial photograph of the area, but unequivocally absent in the 1936 aerial photograph, which means it was constructed during Howell Manning, Sr.'s tenure as owner of the ranch. The year the reservoir ceased to be used is unknown. A 12-inch-diameter steel pipe protrudes several feet from either side of the berm at the southeast corner of the reservoir; the pipe once fed water from the reservoir into the Canoa Canal. The reservoir was apparently used to store water pumped from the ground, but it is unclear where the pumps that fed it were located.

At-Large Landscape Elements

In addition to the three principal clusters, the Canoa Ranch Rural Historic Landscape also holds a variety of other landscape elements not included in a particular cluster. Most of these at-large elements, including the Canoa Canal, the Canoa Lake, numerous concrete irrigation features, and a variety of earthen water-control features, are concentrated on the west side of the Santa Cruz River. Other important elements, including additional irrigation features and the railroad, are found east of the river.

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Watering Facilities

Canoa Canal. The Canoa Canal is a wide, mostly unlined irrigation ditch built in 1893 or 1894, when the ranch was owned by Frederick Maish and Thomas Driscoll (see Section 8). According to its builder, Julius S. Andrews, it was originally "a mile and twenty-six feet long" (Anonymous 1941). This measurement apparently referred to the length of the canal from its head, located near the center of the ranch property, to the immediate vicinity of the Headquarters. Today, the canal runs nearly to the northern limit of the ranch property, and the 1936 aerial photograph of the ranch also shows the canal as extending that far. The head of the canal was excavated into a low river terrace in order to tap a water-bearing soil layer that had been recognized as a reliable source of water since at least the eighteenth century (see Chapter 8). It runs along the east edge of the Canoa Lake, just north of the Headquarters, and it may once have fed that artificial reservoir, but the date of construction of the lake is uncertain. The lake was undoubtedly in place by 1924, when it was included in a description of the ranch (MacTavish 1924), but it does not appear on the 1902 final plat map of the San Ignacio de la Canoa land grant, which does depict the canal. Both north and south of the Headquarters, the Canoa Canal delivered water to cultivated fields, probably through a system combining ditches and concrete pipe.

The builder of the Canoa Canal also stated that the canal was 26 feet deep at its head, gradually tapering to 2 feet deep (at the Headquarters). Because of various later building projects in the vicinity of the canal head, it is now difficult to tell where the ground surface was in the 1890s, but today the apparent canal head is roughly 20 feet below the highest surrounding ground. Directly east of the Headquarters, the canal is crossed by a concrete gate structure that once routed the flow into a narrow, concrete-lined ditch, and possibly also into lateral turnouts for fields to the east of the Headquarters. At the upstream side of the gate structure, the canal is about 5 feet deep. Remnants of various concrete irrigation features are preserved just downstream of the gate structure, but more investigation would be required to determine exactly what happened to the canal flow once it reached the Headquarters.

As it is preserved today, the Canoa Canal is an unlined trench from its head to the concrete gate structure near the Headquarters. Judging from the deflated berm that runs along each side of the canal, much of the earth excavated to create it was simply mounded along the sides. Both berms hold varying amounts of scrub vegetation, with few or no remnants of the large cottonwoods that stood there at least as early as 1924. The canal is approximately 50 feet wide for its entire length, perhaps somewhat wider near its head. Several concrete water-control structures have been built along the canal, including a large gate box located directly in the center of the canal, about midway between the head and the Headquarters. This box is encased in an earthen dam that crosses the full width of the canal. Other concrete structures include lateral turnouts with steel screw-lift gates. The dates of construction of these features and their roles in the overall system of irrigation on the ranch have yet to be investigated.

Canoa Lake. The irregularly shaped, 5-acre Canoa Lake (now dry) is located just north of the Headquarters, separated from it by a small strip of land. The east-west ranch road that serves as the entrance to the ranch continues east over this strip of land (see Figure 23). According to MacTavish (1924), the lake was, in the time of Levi Manning's ownership, "a tree-enclosed lagoon" with "a fine grove of fruit and shade trees" nearby. The lake was in place during Ms. Manning-Catron's residency, still surrounded by

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cottonwoods, stocked with fish, and sometimes used for boating. The shore was a favorite spot for family picnics, and there are several photographs of family members visiting the lake in Ms. Manning-Catron's private collection.

Concrete Irrigation Features. A wide variety of concrete irrigation features can be found on the Canoa Ranch Rural Historic Landscape, within and immediately adjacent to the large areas of abandoned agricultural fields (see Figure 6). An inventory of these features was not possible for this nomination, but they include concrete-lined ditches, 12-inch-diameter pipe, cylindrical and rectangular gate boxes, wellheads, pump-mounting slabs, and a large, round tank (Figures 36–40). Much of the concrete pipe is fully buried and visible only at or near the gate boxes. The condition of all of these concrete features is generally excellent, except that most pumps have been removed and the concrete ditch lining is deteriorating in places.

It has not been possible to determine the age of these features, but most or all of them likely date to the period of significance, some as early as the 1910s. Irrigation engineer G. E. P. Smith, who helped design the irrigation system at the Continental Rubber Company's guayule operation on the north half of the original Canoa land grant in 1916, used concrete pipe and gate boxes in that system that were basically identical to some of the same features found today on the south half of the grant (Smith 1918). (Smith also worked on the south half of the grant, including what is now the Canoa Ranch Rural Historic Landscape, but he did not publish a description of his work there.)

Earthen Water-Control Features. A variety of large earthen features are found on the Canoa Ranch Rural Historic Landscape. Some were built to protect agricultural fields and irrigation features from flooding in the Santa Cruz River; others were built to capture or divert runoff from upland areas adjacent to the floodplain. Most of the earthen water-control features observed on the ranch were found on the west side of the river, along the east edge of the floodplain between the Headquarters and the South Residential Cluster. Almost all of these features are of a size that required heavy equipment (probably a bulldozer) for their construction.

A complete inventory and mapping of earthen water-control features was not possible for this nomination, but some of the principal features can be described. The largest feature is a high berm running along the west side of the river, from a point near the southern end of the property to a point just north of the Canoa Canal head. The berm consists of two or three discontinuous segments, but it may once have been a single continuous berm. It stands from 10 to 20 feet high and is as wide as 40 feet at its base. It was clearly designed to protect the adjacent agricultural fields and associated irrigation features from seasonal flooding.

Just north of the South Residential Cluster is another berm that runs for several hundred feet along the west edge of the floodplain, adjacent on the west to the main north-south ranch road. This berm is about 10 feet high and 20 feet wide; at its northern end, it turns west for 100 feet or so, forming an L. The berm was clearly designed to capture slope wash from the west, storing it in the depressed interior of the L, where it was used to water either fields or cattle or both.

Just north of the L-shaped berm, at the west edge of the property and immediately east of the interstate rest stop, is a pair of long, rectangular reservoirs, each perhaps 100 feet wide, 200 feet long, 5 to 10 feet deep,

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and oriented parallel to the property boundary. These features were created by excavating parallel linear depressions and using at least part of the fill to raise the sides. At the southeast corner of the eastern reservoir, a pipe is visible on the interior wall that connects to a concrete gate box located just to the east, indicating that these reservoirs were connected to the concrete pipe irrigation system that served the adjacent floodplain agricultural fields. The source of the water once held by the reservoirs is unclear, but it must have been slope wash captured from the upland area to the west. The construction of the interstate rest stop may have obliterated the features that once diverted water into the reservoirs.

On the east side of the river, east of the railroad and following the west edge of the floodplain, is another berm that runs the length of the abandoned agricultural fields (see Figure 6). This berm averages about 6 feet high and 20 feet wide and has a flat top that has long been used as a road. Parallel to the berm, about 30 feet to the west, is a concrete-lined irrigation ditch that carried water from a wellhead at the southern end of the property to the abandoned agricultural fields; the berm clearly served to protect the irrigation ditch and the fields from slope wash. Immediately adjacent to the berm on the east is a deep drainage ditch, obviously the source of at least some of the earth for the berm and also serving to carry slope wash northward along the berm's east side. The berm, drainage ditch, and concrete-lined irrigation ditch all end at a seasonal wash at the north end of the agricultural fields.

Agricultural Features

Abandoned Agricultural Fields. The areal extent of abandoned agricultural fields on the Canoa Ranch Rural Historic Landscape is shown in Figure 6. As discussed above, this represents the probable maximum extent of agriculture on the ranch at the end of the period of significance, or 1951. The aerial photographs taken in 1936 make clear that agriculture in that year was restricted to a much smaller area in the vicinity of the Headquarters, and that the improvements made to the ranch by Howell Manning, Sr. after that year, especially the addition of irrigation and water-control features, made agriculture feasible on a much larger portion of the floodplain. Today, the areal extent of abandoned fields is still obvious and corresponds to the floodplain areas where the vegetation is still generally sparse.

Miscellaneous Features

Railroad. The Nogales Branch of the SPRR, also known as the Tucson-Nogales Railroad, runs down the center of the Canoa Ranch Rural Historic Landscape, parallel to and just east of the Santa Cruz River (see Figure 6). A description of this actively used feature and a brief discussion of its history are provided above under Circulation Networks.

Land-Grant Survey Marker. As noted earlier in this section under Boundary Demarcations, a stone survey marker from the 1900 GLO survey of the San Ignacio de la Canoa land grant is still in place at the southeast corner of the Canoa Ranch Rural Historic Landscape, immediately southeast of the intersection of Canoa and Elephant Head Roads. The marker consists of a locally obtained cobble embedded in the ground and pecked with the letters "SIDLC SE COR" (i.e., "San Ignacio de la Canoa southeast corner") (see Figure 15). The GLO surveyor, Philip Contzen, placed similar markers at half-mile intervals around the entire

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land grant boundary. Several of these markers can still be found today (Willey 1979:167), although the marker described here is the only one whose presence was confirmed for this nomination.

9. Clusters

The three principal clusters of features on the Canoa Ranch Rural Historic Landscape—Headquarters, South Residential Cluster, and Canal Head Cluster—are described and discussed above under Buildings, Structures, and Objects.

10. Archaeological Sites

The Canoa Ranch property holds numerous archaeological sites. Some were recorded as early as the 1950s (Frick 1954); others were recorded only recently (Huber and Van West 2003; Van West 2003). Most of the archaeological research carried out to date on the ranch has focused on Native American prehistory, but the ranch also holds many historical-period sites associated with the Hispanic and Anglo-American presence in the area. Unfortunately, most of the known historical-period sites have yet to be formally recorded, and only a few sites have been evaluated for their connections to events and activities on the ranch known through documentary sources. Ten historical-period archaeological sites that have been designated with Arizona State Museum (ASM) site numbers (Table 2) are considered contributing resources of the Canoa Ranch Rural Historic Landscape, but this nomination does not consider their eligibility under Criterion D, which will require additional archaeological evaluation of each site. The discussion here is intended simply as background for the possible later evaluation of historical-period archaeological sites on the ranch.

Archaeologists from Pima Community College (PCC) carried out a comprehensive survey of the Canoa Ranch property in 1994–1995 on behalf of Fairfield Homes (Stephen et al. 1996). The focus of the survey was prehistory, but PCC also recorded the locations of many historical-period features and provided brief descriptions. These finds were not recorded formally as archaeological sites and were not assigned ASM site numbers. Shortly after the PCC survey, Western Heritage, Inc., carried out test excavations at some of the historical-period sites identified by PCC (Welch 1996). These excavations, which consisted mainly of backhoe trenches, were written up only cursorily, and the impact of the testing on individual sites is unclear.

Statistical Research, Inc. (SRI) later carried out additional archaeological survey of the Canoa Ranch property on behalf of Fairfield Homes (Huber 1996; Riggs and Van West 1998). The focus was once again on prehistoric sites, but some effort was made to confirm the locations of historical-period sites identified by PCC. In 2003, SRI was contracted by Pima County to survey a proposed sewer line corridor running north-south along the western portion of the county ranch property (Van West 2003). The purposes of the survey were: to document more fully all previously recorded archaeological sites located within the corridor; to record any additional sites within the corridor; and to evaluate the potential impact of the proposed sewer line on each site. The survey resulted in the recording of 10 sites with historical-period features; 8 of the

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Table 2. Historical-Period Archaeological Sites on the Pima County Canoa Ranch Property

ASM No.	PCC Site Nos.*	PCC Field (HE) Nos.	Tested by Welch?	Historical-Period Associations**	Prehistoric Component?	Description of Historical-Period Component***
AZ DD:4:45	—	—	—	Manning	yes	unpaved entrance road to ranch headquarters
AZ DD:4:46	—	—	—	Manning	yes	field with irrigation features, just southwest of ranch headquarters
AZ DD:4:48	21	262, 263, 264, 290, 291	yes	Territorial; Manning	yes	two silo pits; earthen reservoir; truck or wagon scale foundation; remains of cattle trough; rock alignments; artifact scatter (possibly represents Maish South House); corresponds partially with the Canal Head Cluster of the Canoa Ranch Rural Historic Landscape
AZ DD:4:51	—	259[?], 267[?]	—	Manning	yes	artifact scatter
AZ DD:4:52	24	253	no	undetermined	yes	road; artifact scatter
AZ DD:4:59	—	275[?]	—	Territorial; Manning	yes	artifact scatters (one possibly represents Canoa Stage Station)
AZ DD:4:74	—	—	—	Territorial; Manning	no	Canoa Ranch Headquarters
AZ DD:4:239	47	268, 269, 270, 271	no	Manning	yes	house, wash house with rooftop water tank, two corrals, earthen stock tank, other small ranching features; corresponds partially with the South Residential Cluster of the Canoa Ranch Rural Historic Landscape
AZ DD:4:262	—	—	—	Manning	yes	artifact scatter
AZ DD:4:263	—	—	—	Manning	no	long (2,130 feet) earthen berm; earthen stock tank
—	6	54, 55, 56	no	undetermined	no	three U-shaped rock alignments; trash
—	23	310	yes	undetermined	no	trash deposit exposed in riverbank
—	27	266, 276, 278, 288, 296, 299	yes	Territorial; Manning	no	Canoa Canal and associated irrigation features; trash

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ASM No.	PCC Site Nos.*	PCC Field (HE) Nos.	Tested by Welch?	Historical-Period Associations**	Prehistoric Component?	Description of Historical-Period Component***
—	52	78	yes	undetermined	no	rock alignment; trash
—	53	81, 82	yes	undetermined	no	two rock alignments; rock piles; trash
—	56	89, 90	yes	undetermined	no	two rock alignments; trash
—	65	243	no	undetermined	no	remains of water tank (scattered sheet metal) and corral (scattered wood, wire)
—	76	146	no	undetermined	no	rock pile; trash
—	79	306, 307	no	undetermined	no	large wooden beams (railroad-related?); trash
—	111	231	no	undetermined	no	two cattle feeding troughs; wooden cart; earthen (?) cattle tank
—	124	251	no	undetermined	no	trash
—	125	248	no	undetermined	no	rock alignment; trash
—	128	298	yes	undetermined	no	rock alignment; trash
—	129	311	yes	undetermined	no	oblong (0.8 x 2.1 m) rock pile (possible grave)
—	—	52	—	undetermined	no	rock alignment
—	—	53	—	undetermined	no	trash
—	—	141	—	undetermined	no	trash
—	—	148	—	undetermined	no	well or tank
—	—	212	—	undetermined	no	water faucet
—	—	259	—	undetermined	no	trash
—	—	261	—	undetermined	no	debris; blocks
—	—	267	—	undetermined	no	trash

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ASM No.	PCC Site Nos.*	PCC Field (HE) Nos.	Tested by Welch?	Historical-Period Associations**	Prehistoric Component?	Description of Historical-Period Component***
—	—	275	—	undetermined	no	trash
—	—	277	—	undetermined	no	trash dump

*The sites and historical entities (HEs) recorded by Pima Community College (PCC) (Stephen et al. 1996) are plotted on Figure 41 using the UTM coordinates provided in their report. However, if Stephen and his colleagues considered an HE to be part of a PCC site, the location of the HE is not shown in Figure 41. Some of the UTM coordinates provided by Stephen and his colleagues are evidently incorrect, which is reflected in the plotting of some PCC sites and HEs slightly outside the SRI-recorded (ASM-numbered) sites that presumably contain them.

** Territorial period, 1862-1912; Manning period, 1912-1966.

***The descriptions of sites with ASM numbers are based on Van West (2003). The descriptions of sites lacking ASM numbers are based on the information provided by Stephen et al. (1996) and Welch (1996).

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10 sites also had prehistoric components. Two of the sites with historical-period components were the subject of archival study, an effort to determine how the sites were related to historically documented aspects of ranch history (O'Mack 2003). The Headquarters is itself a historical-period archaeological site, although it has never been excavated and its archaeological component is known only through an examination of surface artifacts.

A list of the historical-period archaeological sites recorded by PCC and SRI on the Pima County Canoa Ranch property is provided in Table 2. The locations of these sites are shown in Figure 41. The information in Table 2 comes from the descriptions of Stephen et al. (1996) and Welch (1996), corrected and supplemented by SRI's later work (Van West 2003). Stephen and his colleagues were wrong about many things—not surprisingly, since their study was a preliminary one. For example, their Site 47 was not, as they assumed, the historic Maish South House, but the more-recent caretaker's house in the South Residential Cluster.

11. Small-scale Elements

Small-scale elements, as defined in the *Guidelines for Evaluating and Documenting Rural Historic Landscapes* (McClelland et al. 1999), could not be inventoried for the purposes of this nomination. Numerous small-scale elements exist on the nearly 5,000-acre Canoa Ranch Rural Historic Landscape, including isolated fence segments, cow paths, two-track dirt roads, trash dumps, and perhaps even gravestones and minor ruins, but documenting them systematically will require an intensive pedestrian survey of the entire property.

Integrity and Condition

The Canoa Ranch Rural Historic Landscape as a whole has excellent integrity of location, design, setting, materials, workmanship, feeling, and association. It encompasses somewhat less than a third of the original 17,000-acre San Ignacio de la Canoa land grant, but what it encompasses includes the historical core of activities on the ranch, and it preserves the eastern and southern boundaries of the original grant. It is no longer an operating ranch, but its extant buildings and structures preserve an appearance and spatial organization that dates to the early twentieth century, with a number of features dating to the late nineteenth century. The larger physical environment of the ranch also has changed in only minor ways. The Santa Cruz River is now dry, and the lush vegetation that it once supported is gone, but the ranch landscape remains entirely open, with the same outstanding views of desert range lands and nearby mountains that have always characterized the ranch. With the exception of features made exclusively of concrete (which is itself an early material on the ranch, at least as early as the 1910s), the buildings, roads, agricultural features, and other structures on the ranch are made predominantly of the same natural materials available to the inhabitants of the ranch from the beginning: adobe, wood, stone, and earth. The workmanship of the people who

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built Canoa Ranch over the years is evident in the vernacular styles of the Headquarters and in distinctive ranching-related structures, such as the exemplary *retaque* corrals.

The combined integrity of location, design, setting, materials, and workmanship at Canoa Ranch give it an unmistakable integrity of feeling, a sense that the only things lacking today are the people and the livestock. The integrity of feeling implies, in turn, an integrity of association, a direct link between the physical features of the ranch and the people who created and used them. The integrity of association is especially strong for the three generations of the Manning family that lived on the ranch, beginning in 1912, and early features like the Canoa Canal are tangible links to the earlier ownership of Maish and Driscoll.

The integrity of buildings in the Canoa Ranch Headquarters is generally excellent, except where recent deterioration has occurred. All the buildings and structures in the Headquarters were in place by the end of the period of significance, and subsequent alterations are not obvious. The condition of individual buildings and structures does vary, and temporary measures to stabilize some buildings have been made by Pima County. The Big House (No. 1), the Howell Manning, Jr. Family House (No. 4), and the Guest House (No. 3) are in good condition and have survived the years of vacancy relatively well. On the other hand, the roof of the Employee's House (No. 6) has collapsed. Likewise, the Storage/Utility Building (No. 7) is in poor condition with areas of wall and roof completely missing from its north chamber.

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8. NARRATIVE STATEMENT OF SIGNIFICANCE

The Canoa Ranch Rural Historic Landscape is historically significant under National Register of Historic Places (NRHP) Criteria A and C. It is significant under Criterion A because of its important association with the development of cattle ranching in Arizona, a phenomenon documented in the Multiple Property Documentation Form (MPDF), *Cattle Ranching in Arizona, 1540–1950* (Collins 2002). It is significant under Criterion C because of the architecture preserved in the largest cluster of features, the Headquarters, which is a cohesive collection of vernacular buildings (residences, workshops, livestock shelters) and ranching-related structures (corrals, fences, walls, stock chute) that lack individual distinction but together represent the evolution of a southern Arizona ranch over many decades.

Period of Significance

The period of significance for the Canoa Ranch Rural Historic Landscape is 1821–1951, which reflects the nearly continuous use of the property as a cattle ranch for 130 years. Canoa Ranch was established as a privately owned land grant called San Ignacio de la Canoa in 1821, at the very end of the Spanish Colonial period (1692–1821). During the subsequent Mexican period (1821–1854), the threat of Apache raids made permanent settlement of the land grant impossible, but it was used intermittently for grazing cattle by the original Mexican owners and retained its original acreage of approximately 17,000 acres. In 1854, the Gadsden Purchase made southern Arizona, including San Ignacio de la Canoa, a part of the United States. The original grant owners, and later their heirs, continued to use the grant for grazing until 1876, when they sold it in its entirety to a pair of prominent Anglo-American entrepreneurs from Tucson. By 1880, the new owners had transformed the grant into a large farming and cattle-raising operation, and they soon added significant improvements, including a mile-long irrigation canal that tapped the subsurface flow of the Santa Cruz River.

In 1912, the land grant was again sold in its entirety to another prominent Tucson entrepreneur, Levi Manning. Four years later, Manning sold off the north half of the original grant, retaining the south half of approximately 8,500 acres. Manning added many improvements to the south half, including residences, outbuildings, agricultural fields, irrigation features, and many cattle-related features. He also greatly expanded the grazing acreage beyond the original land grant. By 1935, the year of Manning's death, his ranch included approximately 500,000 contiguous acres of grazing lands (owned or leased), plus extensive irrigated agricultural fields centered on the Headquarters. This peak in acreage and activity lasted until 1951, when Howell Manning, Levi Manning's only son and his successor as owner of the ranch, began to sell off large parcels to ranching and real estate interests. By 1967, only the 120-acre parcel encompassing the Headquarters remained unsold, but several thousand acres surrounding the Headquarters were never developed

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by the new corporate owners. In 2001, following various transfers of ownership, a 4,653-acre parcel including the Headquarters was purchased by Pima County to preserve as open space. Additional acreage was purchased by the county over the next few years, resulting in the current parcel of 4,960 acres. This parcel constitutes the Canoa Ranch Rural Historic Landscape and represents a large, unsubdivided portion of the original San Ignacio de la Canoa land grant.

The period of significance for the Canoa Ranch Rural Historic Landscape begins in 1821, the year San Ignacio de la Canoa was first granted to its original owners by the Mexican government. The land grant was used only intermittently during its first few decades, but the original boundary survived intact until 1916 and was a defining characteristic of the property from the beginning. Significant portions of the original boundary still survive today and serve to distinguish the Canoa Ranch Rural Historic Landscape as a discrete spatial and historical entity. The period of significance ends in 1951, the year that the vast acreage accumulated by Levi Manning and his son began to be sold off, marking the decline of the Manning era on the ranch. Throughout the period of significance, the full extent of the Canoa Ranch Rural Historic Landscape was devoted to cattle ranching and agriculture, and virtually all of the architecture and other features preserved on the landscape today represent different aspects of this history.

Historic Context

The Canoa Ranch Rural Historic Landscape is located in southern Pima County, Arizona, about 30 miles south of Tucson and 30 miles north of the international border (see Figure 1). It straddles the Santa Cruz River, as did the original San Ignacio de la Canoa land grant; the Headquarters are situated on the west bank of the river, near the western edge of the valley. The Santa Cruz River is a desert stream that now carries water only after heavy rains, but it was once a dependable source of water for most months of the year and played an important role in the history of the ranch throughout the period of significance. The valley was itself an important transportation corridor from the beginning of the Spanish Colonial period. The presence of a dependable water source at the place long known as La Canoa made the site an important *paraje*, or stopover, on the road between the northern provinces of Mexico and the Gila River.

The history of Canoa Ranch can be summarized with reference to the following topics: the colonial-period *paraje* of La Canoa, which was the original focus of interest in the location that became the ranch; the San Ignacio de la Canoa land grant, which remained the core property of the ranch throughout its history, even as other holdings were bought and sold; the Canoa Canal, which played an important role throughout the history of the ranch and is its oldest extant feature; and the Manning era, 1912–1970, during which the ranch reached its maximum size and eventually declined. Each of these topics is treated in turn below.

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The Paraje of La Canoa

The earliest known references to a place called La Canoa are found in the diaries kept by the Juan Bautista de Anza expedition to Alta California in 1775–1776, including the diary of Anza himself and those of two of the Franciscans accompanying him, Francisco Garcés and Pedro Font (Bolton 1930; Garcés 1968). The expedition began at the Tubac presidio, where Anza was commander, on October 23, 1775, and reached the presidio of Monterey on March 10, 1776, thus establishing a land route to the Spanish missions in Alta California. When the expedition first left Tubac, the ruins of which are located today about 12 miles south of the Canoa Ranch Headquarters, it proceeded northward along the *camino real* (royal road), following the Santa Cruz River to a *paraje* known as La Canoa. There, Anza and his large party spent the first night of their 5-month trip. In his diary, Anza briefly described the first night's stop of the expedition:

[W]e halted at the place which they call La Canoa, situated on the River of Tubac [i.e., the Santa Cruz River]. Here during most of the year water is found, although it is not running, but by a little digging in the sand enough can be had for whatever may be required [Bolton 1930:III:6].

Garcés (1968:16) and Font also mentioned the stop at La Canoa in their journals (Bolton 1930:III:211, IV:26), but neither man described the place. As did Anza, Font reported that a woman on the expedition gave birth that night, then died from complications. She was buried at San Xavier del Bac (8 miles south of modern Tucson) when the expedition arrived there on October 25. Her husband, her newborn son, and her other children continued on to Alta California.

It is probable that La Canoa was used as a stopover as early as the first Spanish expedition down the Santa Cruz Valley (led by the Jesuit Eusebio Francisco Kino in 1692), and probably even earlier by Native Americans, but no mention of such a place prior to Anza's expedition has been published. Anza wrote that La Canoa was 4 leagues from Tubac; Garcés and Font both put it at 5 leagues. Either figure must be considered approximate, especially considering the variability of the Spanish league in the colonial period, but 4 or 5 leagues (say, 13–16 miles, assuming a league equaled $3\frac{1}{4}$ miles) north of Tubac places the *paraje* somewhere within the current Pima County Canoa Ranch property, or roughly the southern half of the old land grant. Anza gave no indication that La Canoa consisted of anything other than a stopping place along the river. He did not mention the presence of a native or Spanish settlement, or even a house, which is perhaps an indication that none was there. He also did not mention which side of the river the expedition camped on, or which side it followed to reach La Canoa.

It is uncertain how the place called La Canoa by Anza received that name. The Spanish word *canoa* translates directly as "canoe," but it was long applied throughout the Americas to other things made from (or resembling) an open, hollowed-out log, such as a trough for feeding animals or an open flume for carrying

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the water in one irrigation ditch over another (Real Academia Española 1933:617). A few contradictory explanations of the name exist (e.g., Barnes 1988:74; Gustafson 1966:53), but its precise origin is unknown.

The question of exactly where the colonial-period *paraje* of La Canoa was located is the subject of a recent discussion by O'Mack (2003), who has concluded that it is impossible to establish its precise location based on historical sources. It has often been assumed that early mentions of a water source at La Canoa refer to a specific, fixed location, such as a spring or seep, where water was uniquely available, but Anza's description clearly refers to what must have been a more generalized phenomenon, a stretch of the river bed where shallow digging would yield water. The original surveyor of the San Ignacio de la Canoa land grant, Ignacio Elías Gonzales, characterized the water source in the same terms in 1821 (Elías Gonzales 1821). If water was available, not at a specific point, but along an unspecified stretch of the river, the *paraje* that depended on that water may also have been located anywhere along that stretch.

O'Mack (2003) has also noted that the route of the *camino real* between Tubac and Tucson probably varied from season to season and year to year, and it may have followed either side of the river, depending on conditions. Similarly, the La Canoa *paraje* may have been located on either side of the river, or even within the bed of the river, which was often dry despite the reliable presence of water just below the surface.

Willey (1979) has shown that the La Canoa *paraje* was chosen as the initial point of the 1821 survey, and that this point seems to have fallen near the head of the Canoa Canal, which was built in the 1890s (see below). This implies that the canal was built to tap the source of water that prompted the location of the *paraje* as it was recognized in 1821, which can also be interpreted to imply that the *paraje* used by the Anza expedition of 1775 was also near the head of the Canoa Canal. However, based on O'Mack's discussion, the location of the *paraje* in 1821 cannot be assumed to reflect its precise location in any other year. O'Mack has also pointed out that the Canoa Canal, when it was built, tapped a water-bearing gravel layer found 26 feet below the ground surface and outside the river bed, a source of water perhaps even more generalized than the one noted in 1775 and 1821.

In summary, the colonial-period *paraje* of La Canoa was apparently located somewhere on the Pima County Canoa Ranch property, and it was located there because of the presence of a dependable source of water. However, its precise location in any given year remains uncertain.

The San Ignacio de la Canoa Land Grant

At the end of the colonial period, the *paraje* of La Canoa became part of a large land grant called San Ignacio de la Canoa, originally requested of the Spanish government in 1820 by Tomás and Ignacio Ortiz, brothers residing at the Tubac presidio. The Ortiz brothers were eventually granted their claim in 1821, the same year that Mexico achieved independence from Spain. The claim consisted of four *sitios* (square leagues), or approximately 17,000 acres, located north of the lands of the Tubac presidio and south of the

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lands of the San Xavier del Bac mission (see Figure 1). The brothers were largely prevented from living on and using their grant because of the perennial threat of Apache raids during the Mexican period, but the Ortiz family remained owners of the grant until 1876. In that year, the heirs of Tomás Ortiz sold a controlling interest in the grant to two Anglo-American entrepreneurs living in Tucson, Frederick Maish and Thomas Driscoll. Maish and Driscoll had been grazing cattle on the grant since the early 1870s. Within a few years of becoming owners, the two men had developed a large and profitable ranching operation that included several other properties (Mattison 1946:294–297; Morrisey 1950:152; Wagoner 1961:24, 1975:166–172).

In the years after the Gadsden Purchase and before Maish and Driscoll began grazing cattle on the grant, a variety of people attempted to settle at La Canoa, all of them ultimately frustrated by the persistent threat of Apache raids. Early individual settlers included Peter Kitchen, William Kirklund, and Richard Dorse (Box 1869:326; Farish 1915–1918:II:195; Hayden n.d.), and there were undoubtedly others. Somewhere on the Canoa grant, probably near one or another incarnation of the colonial-period *paraje*, an inn was established in 1859 (Pedersen 1975:133; *Weekly Arizonian*, 15 September 1859, 1 February 1861). The inn, part of a lumber camp where trees felled in the Santa Rita Mountains were sawed into boards, was protected from Apache raids by a stockade. Evidently, the stockade was not protection enough: the inn and the rest of the camp were destroyed by Apaches in July 1861, an incident often referred to as the Tarbox massacre, after the young man in charge of the inn who died in the attack. The history of the Tarbox massacre and the inn at Canoa is complicated by the existence of several, often contradictory accounts (e.g., Gustafson 1966:53–55; Poston 1963:93–94; Wallace 1965:87–90), but it represents an interesting topic for future research. A systematic search for the ruins of the inn and lumber camp, which were probably located somewhere on the Pima County property, also remains to be done.

Maish and Driscoll attempted to establish formal title to the San Ignacio de la Canoa claim in 1879 under the U.S. laws that recognized Spanish and Mexican land grants made in places that had since become U.S. territory. Their title to the Canoa grant was eventually confirmed in essentially its original acreage in 1898. Willey (1979) has shown that the original grant of 1821, which straddled the *camino real*, was shifted by mistake to straddle the Santa Cruz River when a survey of the grant was authorized in 1880 by the office of the U.S. Surveyor General. The new boundaries were retained when the grant was finally confirmed and are still used on the portion of the grant that remains intact.

Several maps of the San Ignacio de la Canoa land grant were made during the nineteenth century, some of which provide useful information about the location of architectural and other types of features on the grant, including those in the vicinity of the Canoa Ranch Headquarters. The first map was prepared by Elías Gonzales based on his original survey of 1821. A copy of this map, with English translations of the original Spanish glosses, accompanied the materials submitted by Maish and Driscoll in 1879 in support of their claim of legitimacy for the grant (Elías Gonzales 1879). Unfortunately, the 1821 map depicts the grant as a simple rectangle with its long axis oriented perfectly north-south. It does not depict any features within the grant, and it is of little value for a study of what exists on the ground today.

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The survey of the San Ignacio de la Canoa land grant authorized by the U.S. Surveyor General's office in 1880 and carried out by deputy surveyor John L. Harris apparently did not include preparation of a map of the grant, or at least we have not found a copy. However, the erroneous boundaries of the grant established by Harris were later taken as its official boundaries and thus were included on the original GLO plats of the townships in which the grant fell, as well as on plats of the grant produced by later surveys. The GLO plat of Township 19 South, Range 13 East included the southern portion of the grant, in which the Canoa Ranch Rural Historic Landscape falls. Based on an 1885 survey by Lewis Wolfley (who relied on an earlier survey for the exterior boundaries of the township), the plat shows only a few features within the boundaries of the grant: the Santa Cruz River, the Tucson-Tubac road running along the west side of the river, a building labeled "Canoa House" on the west side of the road, and another house (labeled "House") on the east side of the road, a few miles south of the first house. A second road enters the grant from the south on the east side of the river, but its full extent is not depicted (Figure 42).

Following final confirmation of the grant, it was surveyed again in 1900 and 1902 by the Surveyor General's office, this time by deputy surveyor Philip Contzen. Contzen's survey produced several maps of the grant: supplementary plats of the townships in which the grant was located (Figure 43 is the supplementary plat of Township 19 South, Range 13 East), a draft map of the entire grant (Figure 44), and a final map of the entire grant (Figure 45). Like the earlier GLO plats, all of these maps depict the boundaries of the grant as Harris surveyed them in 1880. The depictions of features in the southern portion of the grant, both on Contzen's maps of the entire grant and on the corresponding township map, are similar to the depiction on the Wolfley map, but with a number of notable differences. The three Contzen maps also differ notably among themselves, despite having been prepared by the same person for basically the same purpose.

Features common to all three Contzen maps and falling within or near the Canoa Ranch Rural Historic Landscape are: the Santa Cruz River; the Tucson-Nogales stage road on the west side of the river; the road to the mining camp of Helvetia, running east from the first road and crossing the river about a mile south of the northern boundary of the township; a road to the Agua Caliente springs, extending southeast from the Tucson-Nogales road and crossing the river; a group of three buildings located near the intersection of the Tucson-Nogales and Agua Caliente roads; a group of two buildings labeled "Canoa Ranch" or "Ranch House," about a mile downstream of the group of three buildings; a canal running between these two groups of buildings; and a single building located on the west side of the river, about a mile upstream of the group of three buildings.

The canal, the ranch house, and the road to Helvetia, along with a few minor features such as fields and fenced areas, appear for the first time on the Contzen maps, but the group of three buildings corresponds to the location of the "Canoa House" on the Wolfley map. The building labeled "Station" on the Contzen maps corresponds to the unnamed house on the Wolfley map. The road to Agua Caliente on the Contzen maps splits into two roads near the southern limit of the grant; the branch that continued south-southwest and parallel to the river was probably the fragment of road depicted on the Wolfley map (and probably also

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the east side road depicted on some earlier maps). The new features on the Contzen map are easily attributed to improvements by Maish and Driscoll during the period 1885–1900, and the “Proposed Reservoir,” which appears only on Contzen’s draft land grant map (see Figure 44), may have been an improvement planned but abandoned by the time Contzen finalized his map. The earthen reservoir currently located in a slightly different position near the head of the Canoa Canal was apparently built much later by Howell Manning (see below), although Maish and Driscoll’s earlier plans perhaps inspired it.

In addition to differences in the features they depict, a casual comparison of the three Contzen maps shows that the relative positions of the features also differ. For example, Contzen’s final land grant map shows the cluster of three houses (labeled “Old Houses”) on the west side of the Tucson-Nogales road, immediately adjacent to the intersection with the Agua Caliente road; his draft land grant map shows the cluster (labeled “Ruins”) adjacent to the intersection but on the east side of the road; and his township plat shows the cluster (again labeled “Old Houses”) on the west side of the road but several hundred feet north of the intersection.

O’Mack (2003) recently made a systematic comparison of the three Contzen maps and the Wolfley map by having the features depicted on each map digitized and overlaid on a modern USGS topographic map of the same area. An accurate overlay was possible in each case because the township and section lines, as well as the boundaries of the land grant itself, have not changed since the surveys by Wolfley and Contzen, which means that each map has numerous stable reference points. The overlays showed that, however precise the survey of township lines and land grant boundaries may have been, Wolfley’s and Contzen’s mapping of architectural and other features was fairly impressionistic. It is unlikely that any of the four maps accurately depicts the former locations of features within the grant. Like most GLO surveyors, Wolfley and Contzen were probably unconcerned with the precise locations of such features except as intersected by survey lines. Since no survey lines crossed the grant, the locations of features within the grant were only approximated.

The notes of the several surveyors of the Canoa land grant add only a little information to the survey map depictions. In the notes on his 1880 survey, Harris made several references to the “Maish Canoa House” and the “Maish South House,” without describing either building (Harris 1880). As mentioned above, these buildings are represented on the Wolfley and Contzen maps, although labeled differently. Harris also noted “the well known Canoa Rancho” (or “the well known Canoa Ranch house”), which he also did not describe but by which he presumably meant the same building as “Maish’s Canoa House.” In his general description of the grant, Harris noted that “with the exception of the two houses and improvements owned by the claimants of the grant [i.e., Maish and Driscoll] there are no improvements and no one else living upon the ground enclosed in the survey.” Wolfley (1885b), in his notes on the township survey, did not include any comment about features within the grant, and only passing comment on “two houses and good improvements” in Section 32 (i.e., outside the grant; the houses are visible in Figure 42). Contzen (1900) also did not provide specific comments on features within the grant, although he included a few details in his general description: “There are about 400 acres under cultivation on this grant. The improvements consist of a

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number of ranch houses, with enclosures, wells etc. which are occupied by some of the claimants. No settlers save owners of the grant, live on this grant." His remarks are hard to interpret: since there were only two owners at the time, what did he mean by "some of the claimants" occupying "a number of ranch houses"?

Despite the inaccuracies of the four survey maps and the vagaries of the accompanying notes, they are still valuable as a record of the existence and approximate locations of former features within the grant, including within the limits of the Canoa Ranch Rural Historic Landscape. Three features or groups of features falling within the district are especially worth noting. First is the building called "Maish's Canoa House" by Harris, which was probably the same as the building on the Wolfley map labeled "Canoa House" and the set of buildings on the Contzen maps labeled "Old Houses" and "Ruins." Whatever its precise location, it is clear that this building (or group of buildings) once stood just west of the head of the Canoa Canal, which is still mostly intact today and is also depicted on the three Contzen maps. No definite trace of the Maish Canoa House has ever been found, despite several archaeological surveys in the vicinity of the canal head, which suggests that the later construction of other features near the canal head destroyed the surface remnants of the house. Nonetheless, O'Mack (2003) recently concluded that intact subsurface remnants of the house may still be preserved within the bounds of archaeological site AZ DD:4:48 (ASM), a multicomponent site recorded adjacent to the canal head.

The Contzen depictions of the Canoa Canal are valuable in themselves as further evidence of the early date of construction of this feature and the apparent stability of its alignment. It is at the northern, lower end of the canal, as it is preserved today, that the Canoa Ranch Headquarters is located, and where the three Contzen maps show a group of two buildings labeled "Canoa Ranch" (or "Ranch Ho[use]") on the draft land grant map; see Figure 44). Because there is no definitive evidence for the earliest date of construction of the extant buildings at the Headquarters, it is impossible to say if any of them correspond directly with either of the two buildings depicted by Contzen, but the maps at least show that buildings were in existence in the vicinity of the Headquarters by 1900.

Two other maps of the land grant may be mentioned. In 1893, Maish and Driscoll presented evidence to the recently established Court of Private Land Claims (CPLC) for a much larger original claim of approximately 47,000 acres. A map of this enormous property was prepared by Ignacio Bonillas, who claimed to have conducted a survey in which he relocated the original survey markers of Elías Gonzales (Figure 46). Willey (1979:163) concluded that Bonillas never made such a survey and that his map was not genuine. Although the CPLC originally confirmed the expanded claim, the decision was reversed a short time later. Whatever inspired Bonillas to make the map, it adds nothing to the Wolfley and Contzen maps. The same may be said of yet another map submitted on behalf of Maish and Driscoll in 1893 and prepared by an unknown surveyor (Anonymous 1893). This map demarcated a similar claim of 47,000 acres, but, as Willey (1979:163) noted, this map is also not genuine.

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The Canoa Canal

In the early 1890s, Maish and Driscoll dug the Canoa Canal, which is now unused and generally dry but is still preserved in most of its original length. It begins at a point about 1 mile south-southwest of the Headquarters and runs north-northeast to the earthen reservoir known as Canoa Lake (also dry today), just north of the main ranch house. Based on a field examination of the canal for this nomination and a comparison of early aerial photographs of the ranch, it is clear that the canal once extended at least 2,500 feet northeast of the Canoa Lake to deliver water to agricultural fields. The Canoa Ranch Rural Historic Landscape encompasses the entire preserved length of the canal, including this northeastern extension.

The earliest map depiction of the canal that we have found is on an 1893 map of Pima County (Roskrug 1893), but it is not clear how much of the canal had actually been dug when the map was prepared. It is shown as completed (a solid line) along what is basically its route today, and as uncompleted (a dashed line) for another 4 miles north. Most of the latter portion of the canal was apparently never dug, although it reflects the long-term plans of the Canoa Canal Company, which was formed in 1887 by Maish, Driscoll, and other partners with the idea of building a canal to carry water from the ranch all the way to Tucson (see Willey [1979:164], who cites the unpublished articles of incorporation; his reference to the "1887 Canoa Canal" [1979:165] assumes the canal was dug the year the company incorporated, but it was not). The actual digging of the extant Canoa Canal was discussed briefly by its digger, Julius S. Andrews, in an interview in 1941. The interviewer's summary includes Andrews's incidental comments on what was probably part of the prehistoric component of archaeological site AZ DD:4:48 (ASM):

After leaving the Empire Ranch [Andrews] hired out to Marsch [*sic*] and Driscoll, owners of the Fresnal[,] Deep Wells and Canoa Ranches, and took charge of digging the Canoa Ditch (at present known as the Manning Ditch). The ditch, when finished, was a mile and twenty-six feet long. At the head of the ditch it was twenty-six feet deep and tapered down to two feet in depth. From the start of digging his men found old metates, ollas and pestels [*sic*], indicating that there had been people living in the neighborhood quite some time before. He also cleared ninety acres of farm land and planted a crop of barley [Anonymous 1941:8-9].

The context of Andrews's description indicates that he dug the canal sometime in the period 1893-1894, which means Roskrug's depiction of the completed portion of the canal reflected the immediate plans of Maish and Driscoll rather than what was actually finished. This might explain why the head of the canal is depicted as directly at the west bank of the Santa Cruz River rather than several hundred feet away, as it was finally built. Although Andrews does not mention it, the canal he dug did not divert water from the Santa Cruz, which, in any case, had only seasonal flow, but instead tapped a more reliable water-bearing

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gravel layer present in the vicinity of the canal head. Placing the head at some distance from the Santa Cruz also protected it from damage by flooding, as emphasized in a 1924 description of the system by Caton MacTavish:

To circumvent this river, and at the same time to tap its water, ingenious developers conceived the idea of creating an artificial ravine to draw off the underground flow. They excavated this ravine from higher land at the headquarters of the Canoa Ranch, a mile angling toward the river, gradually deepening until at the head the ravine was deep enough to draw seepage from the river. Then wells were sunk in the bed of the ravine, pumping plants installed above, and a large stream was piped away for the irrigation of 1200 acres. The pumps are now idle, but the ravine, wearing the appearance of nature, runs a clear brook to the Canoa Ranch, where the water is collected in a pond beautifully arbores by tall cottonwoods [MacTavish 1924 (no pagination); also published, with minor differences, in McTavish 1925:35].

The information about wells provided in this description is hard to interpret. It does not make sense that Maish and Driscoll would dig a canal to tap the underground flow present at a certain level, then drill wells in the canal to tap some deeper source. Why drill wells in the canal, which would only complicate the drilling? Perhaps the wells mentioned by MacTavish were simply pumps used to draw water from the canal for use on adjacent fields. According to irrigation engineer George E. P. Smith (1910:174, 218), who included notes on various wells in the Santa Cruz Valley in his study of groundwater in the Rillito Valley, four deep wells were drilled at Canoa Ranch in 1907. Each well was 230 feet deep, and the group of four was placed not in the canal, but in a line at an approximate right angle with the course of the river. Smith indicated the distance of the wells from the river as 800 feet, "near the north edge of the bottomland," but he also noted that the wells were "connected in two pairs of two wells each, with intervals of 55 feet between the wells of a set, and 110 feet between the sets." Thus, it is hard to say how far from the river a given well was. However far, at least one well must have been near the canal, although Smith made no mention of the latter feature (which is odd, given his considerable interest in the similar underflow ditches of the Rillito Valley). Smith also described the large, expensive, mesquite-fired, steam pumping plant built in 1907 and used to draw water from these wells, but this plant, to judge by the description by MacTavish just cited, was inactive by 1924. Smith, consistent with his interest in the relationship between groundwater and geology in the Santa Cruz Valley, published the drilling log from one of the Canoa Ranch wells, "the second well from the river." Significantly, the first water-bearing gravel layer reached in drilling was between 25 and 27 feet, which fits neatly with Andrews's claim that the head of the canal he dug was 26 feet deep.

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The Canoa Canal Company never realized its 1887 plan to supply water to Tucson, but the original mile of canal proved useful by itself to Maish and Driscoll's operation of the ranch. In 1897, a publication promoting the virtues of Arizona described the central role of the canal on the Canoa:

A few years ago the owners conceived the idea of developing the underflow of the river and conducting it upon the fine valley land pertaining to the property. Running a ditch a mile in length, with a grade of one inch to the rod, they obtained water enough to irrigate 400 acres, which are now planted in alfalfa and grain. They are confident that an additional mile of ditch will give them an unlimited supply of water. From this tract they have baled this season about 5,000 bales of grain and alfalfa hay. They maintain over 400 hogs besides fattening cattle when necessary. This year, up to June, they had sold 2,700 head of cattle off this range [Hilzinger 1969:97].

MacTavish's mention of 1,200 irrigated acres at Canoa Ranch in the 1920s indicates that the system was in fact expanded after 1897, although whether this was done before or after Levi Manning bought the ranch in 1912 is unclear. It is also unclear exactly what MacTavish meant when he noted that "there is a vastly larger acreage susceptible to cultivation that can be watered by artesian wells in the bed of the Santa Cruz River" (MacTavish 1924). This contradicts the implication of his statement that the Canoa Canal was dug to *avoid* the flooding river, which makes it unlikely that wells would be dug in its bed. Perhaps he meant that artesian wells, like the Canoa Canal, were dug to tap the underground flow of the river away from its active channel. Part of the caption placed by MacTavish under a photograph of the canal is possibly of interest: "Gravity Water from Seven Artesian Wells." However productive the Canoa Canal may have been in 1897, the drilling of the four deep wells described by Smith suggests that the canal was not considered a sufficient water source for agriculture by 1907. It continued to carry water, but the water came from wells, not from the water-bearing layer it had originally tapped.

The Manning Era, 1912–1970

In 1912, Levi H. Manning, former U.S. Surveyor General, former mayor of Tucson, and a wealthy entrepreneur, bought the entire 17,000-acre Canoa land grant for \$165,000. Like Maish and Driscoll, Manning farmed and raised cattle on the grant, making numerous improvements to support both pursuits. He also greatly expanded the total area of the ranch by buying and leasing adjacent land (MacTavish 1924; Sloan 1930:22–25). As late as 1930, five years before his death, Manning was still adding to the overall extent of the ranch, purchasing the 75,000-acre holdings of the La Osa Livestock Company in the Altar Valley, which consisted of seven separate ranches (*ADS*, 6 June 1930). No precise account of the full extent of the Canoa Ranch holdings under Levi Manning has been made, but it was reliably reported to be "about a half million acres" (Drachman 1933), a figure that included both patented and leased land. A map of Canoa

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Ranch holdings prepared in 1953, when Howell Manning, Levi's son, was owner of the ranch, shows contiguous holdings (patented and leased) of over 330,000 acres, extending from the Santa Rita Mountains on the east to the Baboquivari Mountains on the west, and from the San Xavier Indian Reservation on the north to the Arivaca vicinity on the south (see Figure 1), and this map was prepared shortly after Howell Manning had sold two large parcels in the Altar Valley.

Levi Manning was born in Halifax County, North Carolina, on May 18, 1864, then raised and educated in Mississippi, where his father, a colonel in the Confederacy, served for years as a U.S. Congressman. Manning moved to Tucson in 1884 as a young man and worked first as newspaper reporter. He soon became involved in the mining business and had considerable success in both Arizona and Mexico. In 1892, he was appointed U.S. Surveyor General for Arizona, an important position at the time and one he held for 4 years (he was called General Manning thereafter). By the turn of the century, Manning was buying controlling interests in the emerging public services in Tucson, first the old street car company, which he modernized, then the gas and electric companies. He also invested in a variety of agricultural projects, and in Tucson real estate. With two partners, he built the Santa Rita Hotel in downtown Tucson in 1904. By 1905, the year he was elected mayor of Tucson, Manning was a wealthy man with diverse business interests. He won election on an anti-gambling platform, and soon wrought major changes in Tucson, regulating gambling and saloon businesses so strictly that the city's reputation as a haven for vice changed dramatically (*ADS*, 2 August 1935; Sloan 1930:23-25; Sonnichsen 1982:123, 135).

In 1908, Levi Manning built a large, luxurious house on Paseo Redondo near downtown Tucson, and that house remained his primary residence after he bought the ranch. Nonetheless, he was closely involved in the day-to-day operation of his ranching business, and he apparently maintained a fully equipped second residence at the ranch. MacTavish (1924) wrote, "When Canoa Ranch first came into General Manning's hands, he determined to perpetuate the romantic Mexican tradition by creating a hacienda of Mexican style buildings, supplemented, however, with an electric lighting system, ice-plant, and other things American." Manning's only son, Howell Manning, was born in 1899 and began working on the ranch as a teenager. By 1924, when he was just 25 years old, he was ranch manager. He became owner of the ranch in 1935 when his father died, and continued to run the ranch in his father's style, making numerous improvements. His own death came in 1966 (MacTavish 1924; Manning 1983; *Tucson Citizen [TC]*, 11 October 1966).

Exactly when Levi Manning first made improvements on the ranch is unclear. He was evidently interested in selling the ranch just a few years after he bought it. In 1916, he was approached by the Continental Rubber Company of New York, which was interested in buying the ranch for development as a guayule plantation. Guayule is a native desert shrub that produces a latex suitable for making rubber. The outbreak of World War I had interrupted shipping from Southeast Asia, where rubber plantations (planted with rubber tree seedlings from the Amazon jungle) were beginning to produce latex, and the ongoing Mexican Revolution was making things difficult at Continental's existing guayule plant south of the border. According to Smith (1965:3), who first directed the attention of the company to Canoa Ranch, Manning did not hesitate

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to give Continental options on the south half, the north half, and the entirety of the grant. In July 1916, the company bought the north half of the grant, which had more agricultural land than the south half. Smith, an irrigation engineer, was hired by Continental to develop the plantation, and the first guayule seedlings were planted in 1918. But when the price of rubber dropped precipitously in 1920, Continental closed the operation. The subsequent development of synthetic rubber kept it closed for good. The north half of the grant was later developed for other agricultural pursuits and as the residential community of Green Valley.

If Manning was willing to sell the entire Canoa property in 1916 (undoubtedly for a handsome price), the improvements he made to the south half may have come only after Continental Rubber declined to buy it. Whatever the case, by the time Howell Manning became ranch manager, the Manning cattle-raising operation included the Scotch Farms, a 500-acre Hereford breeding facility along the Santa Cruz River just south of Tucson. At the ranch itself, the most conspicuous improvements were two large pit silos, each capable of holding 2,500 tons of feed, excavated into the east side of the low, natural terrace immediately west of the head of the Canoa Canal (MacTavish 1924). Other improvements included a concrete feeding trough, one-third of a mile long, completed in 1928 and reportedly the largest such feature in the United States at the time (*ADS*, 27 November 1928). Recent archaeological surveys on portions of the Pima County ranch property (Van West 2003) have noted a wide variety of irrigation and flood-control features that undoubtedly also date to the Manning era, but the precise dates of construction of these features have not been established. Based on a comparison of aerial photographs of the ranch from 1935 and 1954, it is clear that the amount of land under cultivation was quadrupled in that period. Thus, many of the irrigation and other agriculture-related features may have been built after Howell Manning succeeded his father as owner of the ranch.

In 1935, the year of his father's death, Howell Manning built the large main house (the Big House) that still stands at the Headquarters. He and his second wife, Evelyn Manning, began living at both the Paseo Redondo residence in Tucson and the new ranch house. Howell's two sons from a previous marriage lived with them, as did Evelyn's daughter, Clare, whom Howell adopted. Howell's older son, Howell Manning, Jr., began working on the ranch full-time when he returned from service in World War II, and he looked forward to taking his father's place as manager and owner of the ranch. He married Louise "Deezie" Lewis (now Louise Manning-Catron) in 1948, and the couple soon took up residence at the ranch. Howell, Sr. and his wife sold the Paseo Redondo residence in 1949 and began living exclusively at the ranch in the new ranch house. Howell, Jr. and Deezie lived in another existing house at the ranch that they expanded and remodeled (Statistical Research 2003).

Tragedy struck the ranch on December 21, 1951, when Howell Manning, Jr. and two ranch employees died in an automobile accident returning home from Tucson (*ADS*, 22 December 1951). The accident came around the time that Howell, Sr. had begun to sell off large parcels of grazing land. A few months before the accident, for uncertain reasons, he sold at least one large parcel in the Altar Valley (*ADS*, 27 September 1951), and two years after the accident, he sold what amounted to more than a third of the ranch holdings,

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a 128,000-acre parcel bought by Kemper Marley, a rancher and real estate developer from Phoenix (*ADS*, 15 November 1953). Other sales apparently followed or preceded the Marley sale. When Howell, Sr. died in 1966, only the south half of the original land grant remained in the family. Shortly after his death, all but the Headquarters and its immediate vicinity were sold off (Hadley 2000; Itule 1968). Deezie, the widow of Howell, Jr., remained on the ranch with her two young daughters until 1955. Clare Manning (now Clare Schnauffer) and her husband, William Schnauffer, stayed at the ranch for several more years, serving as ranch managers and raising quarter horses. They eventually owned and operated their own ranch, a former part of the original Manning holdings (SRI 2003). Evelyn Manning, the widow of Howell, Sr., remained on the ranch until her death in 1970 (*ADS*, 6 May 1970).

Landscape and Architecture Context

The history of Canoa Ranch is embodied in the many elements of the Canoa Ranch Rural Historic Landscape, including residential and ranching-related buildings and a wide variety of ranching-related structures (see Section 7). The landscape as a whole illustrates the impacts of ranching practices through the period of significance, while the ranch architecture, particularly the architecture in the Headquarters, is a detailed record of how the ranch evolved after Levi Manning bought it in 1912. The following paragraphs examine the wider context of Arizona ranching history, especially as elaborated by Collins (2002), and its reflection in the landscape and architecture of Canoa Ranch.

The southern Arizona ranch landscape is notable for its vastness, aridity, and isolation. The initial selection of a site for a ranch was determined by proximity to a natural water source—in the Canoa Ranch case, a particular stretch of the Santa Cruz River—around which a rancher would assemble an often enormous acreage suitable only for low-intensity grazing. Canoa Ranch began large—17,000 acres—and became many times larger as the ranch's owners bought and leased more grazing land. As on every other large Arizona ranch, this expansion depended on access to reliable sources of water for cattle. When the railroad arrived in southern Arizona in 1880, steam-powered well-drilling equipment became readily available and opened even the most remote and arid of areas to grazing. Despite such expansion, most ranch functions other than grazing continued to be centered on a ranch's headquarters, which was typically an isolated island of various activities in a sea of range land. This centralization of functions is what made the ranch headquarters the focus of building efforts on a ranch, a pattern exemplified in the Canoa Ranch Headquarters.

Ranch Clusters

A ranch cluster is a group of buildings, corrals, or other features that developed in a particular location because of a range of factors, including topography, proximity to a water source, cultural tradition, and the interrelated functions of its elements. The most important cluster found on every ranch is the headquarters,

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which typically holds the residences of the owner, ranch foreman, and other employees, plus corrals, sheds, shelters, and other structures related to ranching. The headquarters is a self-sufficient, close-knit, yet hierarchical settlement where a physical separation between ranch owners, employees, and livestock is maintained. At the Canoa Ranch Headquarters, the central, adobe-walled driveway separates the owners' residences from the area where most of the employees' residences and ranching-related buildings and structures are found. The two halves of the cluster are united by the common use of vernacular architecture, although the two owners' residences were designed in part by a professional architect.

Two other clusters were identified on the Canoa Ranch Rural Historic Landscape for this nomination: the South Residential Cluster, a small, self-sufficient cluster located near the south end of the property, long the residence of a ranch employee responsible for nearby irrigation features; and the Canal Head Cluster, a group of agriculture- and livestock-related features grouped around the ranch's original water source, near the center of the property. The South Residential Cluster is similar to the *line camp*, a ranching property type identified by Collins (2002:F89), except that this cluster, with its focus on agriculture, was more closely tied to the centralized functions of the Headquarters than the typical line camp, and not as remotely placed. The modest architecture of the South Residential Cluster, like most of the architecture in the Headquarters, is vernacular.

Southern Arizona Ranch Houses

Historically, the southern Arizona ranch house served both as the owner's residence and the business office for the ranch. Functionally and visually, it was the focal point of the ranch, the primary building in terms of size, workmanship, and style (Collins 2002:F82). The southern Arizona ranch house reflected a broad continuum of architectural style, from a regional Sonoran folk tradition to the work of academically trained architects following extraregional standards of design.

Arizona ranch houses reflect ranching and architectural traditions with roots in the Old World, first brought to the New World by Spaniards. The Spanish ranching ideal was the hacienda, a kind of self-contained private community with a wealthy owner and many dependent employees, located at the center of a vast property. The typical hacienda included a central complex with a main house, a chapel, a school, storehouses, workshops, corrals, and bunkhouses; the house of the owner (*hacendado*) was its focal point. The idea of a hacienda first reached southern Arizona when it was still a part of Mexico, and the continued connections between Sonora and Arizona after the Gadsden Purchase reinforced its presence here, albeit in a cultural environment newly influenced by Anglo-American traditions. Early Sonoran-style ranch houses in southern Arizona were rectilinear in plan, with flat façades and roofs. They were built of adobe and wood, and made larger by the linear addition of rooms. The scale of rooms was determined by the length of available wood beams (*vigas*), and climate and the needs of defense controlled the style and type of wall openings.

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Early Anglo-American ranchers in southern Arizona adopted many of the features of the Spanish-Mexican building tradition, often out of simple expediency. Adobe was the most readily available building material, and the limited resources of most early ranchers prevented a departure from simple forms. The arrival of the railroad in Arizona in 1880 changed this pattern significantly as the availability of brick and dimensional lumber allowed the construction of "American-style" buildings. Between the extremes of traditional Sonoran types and the new Anglo-American forms were a number of transitional forms. At Faraway Ranch in Cochise County, the ranch houses retained Sonoran elements, particularly in the use of adobe, but flat roofs were abandoned (Collins 2002:E73)

Early in the twentieth century, a romantic longing for a regional style more "natural" to the Sonoran Desert led to the construction of ranch houses like the one at Dos Lomitas Ranch in western Pima County, a designed, Sonoran-style house built by Mexican laborers (Collins 2002:E73). At Canoa Ranch, Levi Manning was influenced by a similar romanticism when he built his "Mexican hacienda" of Sonoran-style adobe buildings, also built by Mexican laborers from local materials. Other ranchers built residences in the popular Southwest Revival and Bungalow styles. Starting in the 1930s, and increasingly after World War II, ranchers preferred the Ranch and Modern styles. Among the wealthiest ranchers, it was fashionable to hire skilled architects to design their ranch houses. The extant versions of Canoa's two principal residences were designed by Tucson architect John W. Smith.

More than any other characteristic, Arizona ranch houses exhibit a strong "additive" tradition, one that continued well into the 1950s. Present in both Mexican- and Anglo-style architecture, the additive tradition means either the expansion of an existing house by room addition over time, or the incorporation of an earlier core room, often of adobe or stone, into a larger, newly constructed house. Mexican residential planning was and is a modular, additive process in which unspecialized, single rooms are strung together in a linear arrangement. Anglo-Americans were inclined to build a complete house "all at once," but with a large site, unhindered by urban zoning restrictions, they were often inspired to expand and were typically limited only by economic constraints. The main house at Faraway Ranch is an example of a residence built around an early stone core (Stewart 1987). The main house at Agua Caliente Ranch near Tucson not only incorporated an early adobe core but also increased greatly in size through several additions. The Howell Manning, Jr. Family House at Canoa Ranch grew into a complete residence from an earlier dormitory building.

Canoa Ranch Houses

The houses at Canoa Ranch partake in many of the traditions common to southern Arizona ranch houses, including references to the hacienda, the use of adobe, and additive construction. Much like a hacienda, Canoa Ranch was a self-contained community in its heyday, with clear status distinctions between owners and employees reflected in ranch architecture. But the built environment of the ranch was largely vernacular, and adobe was used almost universally. Howell Manning, Sr. used a professional architect to design

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the two owners' residences, yet even these buildings bowed to the expediency of the additive tradition by incorporating earlier buildings in their design.

Stuccoed adobe was the material chosen for the fancy, styled houses of the Mannings and the vernacular employees' dwellings alike, as well as for utilitarian buildings and the freestanding compound walls. Mexican laborers built these features using adobe either made on site or, less likely, bought in nearby Mexico. The choice of material may have been in part an economic decision: the major building episode of Howell Manning, Sr. coincided with the Great Depression and World War II, when a national shortage of other materials may have made adobe the only feasible choice.

Architectural Styles at Canoa Ranch

In addition its many examples of purely vernacular architecture, Canoa Ranch also holds examples of three identifiable architectural styles: Transitional, Spanish Colonial Revival, and Ranch.

Transitional Style

The Foreman's House (No. 10), the Storage/Utility Building (No. 7), and the Employee's Residence (No. 9) are all in the Transitional style and are the earliest surviving buildings at Canoa Ranch. The Transitional style, as first described by Sobin (1975) at Florence, Arizona, was based closely on the Sonoran tradition of adobe walls with high parapets, round wood beams or *vigas*, and flat roofs with projecting drainpipes, but with the addition of Anglo-American elements brought about by the incorporation of southern Arizona into the United States after 1854. A notable Transitional trend was the addition of a gable-end or hipped roof to an otherwise essentially Sonoran building, but the three Transitional buildings at Canoa Ranch preserve their flat roofs. Their distinctively Transitional elements include shed-roofed porch additions and double-hung windows. Late in the nineteenth century, the Transitional style gave way to the fully Anglo-American Territorial style, which broke entirely from the Sonoran tradition in both form and materials.

Spanish Colonial Revival Style

The Guest House (No. 3) and Employee's House (No. 5) are modest examples of Spanish Colonial Revival dwellings. The Spanish Colonial Revival style was one of the Southwestern revivals in vogue in the United States from 1915 through 1930. Especially popular in the Southwest, it was very common in Arizona in a range of settings, from urban neighborhoods to ranch landscapes. Spanish Colonial Revival was an eclectic style that used decorative details borrowed from the entire history of Spanish architecture. The style was unified by the use of arches, courtyards or patios, plain stuccoed wall surfaces, form as mass, and Spanish or Mission tile roofs, all derived from the Mediterranean region. There was characteristically a low-pitched, tiled roof (gabled or hipped), but the use of parapet walls and a flat roof was also common. The Spanish Colonial Revival style was found in the entire continuum of architectural production, from the academic designs of architects for elite owners to the popular vernacular creations of contractors and builders.

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Ranch Style

The two styled buildings at Canoa Ranch, the Big House (No. 1) and the Howell Manning, Jr., Family House (No. 2), are not vernacular but instead the work of a trained designer, John W. Smith. These dwellings are examples of the Ranch style just coming into fashion in the mid-1930s through the influence of California architects. The Ranch style, popular until around 1975, was influenced heavily by the rise of the automobile and accompanying urban sprawl, where streetcar suburbs with small urban lots and compact dwellings gave way to far-flung suburbs with large lots and sprawling house forms. The style is loosely based on early Spanish Colonial precedents in the American Southwest. The rambling form maximizes façade width. Asymmetrical, one-story forms with low-pitch roofs are dominant. Hip-roofed, side-gabled, and cross-gabled forms are common. There is usually a roof overhang with either boxed eaves or exposed rafters. Partially enclosed patios on the rear of the house are common, a borrowing from Hispanic houses. These private outdoor living areas replaced the large front porches of earlier urban dwellings.

The decision by Howell Manning, Sr., and his wife to hire a prominent architect and to use the emerging Ranch style for the design of their houses at Canoa likely reflected their desire to make their time at the ranch an extension of the affluent life they enjoyed in Tucson at Paseo Redondo. Creating large, high-style residences at the center of a working ranch was a significant departure from the usual vernacular trend on ranches in Arizona, where originally small dwellings were typically made larger only through successive, relatively modest additions.

The Architect

John W. ("Ginger") Smith, a skillful designer aided by prestigious social connections, was one of a small group of talented architects who practiced in Tucson during the early decades of the twentieth century. Little information could be found about him, but he is a worthy subject for further research. He was the designer of several residences in the NRHP-listed El Encanto Estates Residential District, the upscale central Tucson neighborhood where he and his family also lived. Two El Encanto houses designed by Smith include the Drachman House and his own family house, both early Ranch-style residences on Calle Clara Vista (Linda Laird and Associates 1988).

In 1937, the journal *Architectural Forum* held a competition for the creative use of glass in architecture and decoration (*Architectural Forum* 1937). At that time, glass design was playing an increasingly prominent role in building. The Big House at Canoa Ranch received the journal's award for the narrow, open, glazed terrace of its east façade, an award accompanied by the comment "the need for this type of room knows no geographical restriction." A glazed terrace of this kind is locally referred to as an "Arizona room."

The first mention of John W. Smith and his wife Marian Spencer was in the 1922 Tucson City Directory. He was listed as a civil engineer residing at 1230 Lowell Avenue. From 1925 to 1930, the Smiths still

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lived on Lowell Avenue and he was listed as an assistant professor at the University of Arizona. By 1935, the John W. Smith family resided at 30 Clara Vista in El Encanto Estates. This residence was next door to the family of Ralph and Clare Ellinwood, publishers of the *Arizona Daily Star* and also associated with Evelyn Louise Nixon Rounsevell Lockhart, the second wife of Howell Manning, Sr.

By 1938, Smith was listed as an architect with an office at 217 N. Main Avenue. According to Joana Dianos, the Smiths built and moved into a new house at 4848 E. Fort Lowell Road. John W. Smith was still practicing architecture in 1955 but by 1960 was listed as retired, with a residence at 3935 N. Orlando Avenue.

Summary Paragraph

Historic Canoa Ranch, with its vast acreage, its combination of open-range grazing and intensive irrigated agriculture, and its organization around a Headquarters that integrated owner and employee residences with the physical plant of a major livestock operation, was a classic example of the large southern Arizona ranch of the nineteenth and early twentieth centuries. The Canoa Ranch Rural Historic Landscape encompasses the historic core of Canoa Ranch, including nearly 5,000 contiguous acres of the original ranch property, the largely intact Headquarters, two other clusters of associated features, and an overall landscape that reflects in detail both the particular history of the ranch and the general history of ranching in southern Arizona. The period of significance for the Canoa Ranch Rural Historic Landscape, 1821–1951, spans three major periods of ownership, several shifts in ranching strategy, and significant environmental changes, but the focus of the ranch—raising cattle—remained the same throughout the period. The best evidence of this continuity is the landscape itself, progressively modified by ranching practices yet still open, picturesque, and centered on the natural feature that prompted the establishment of the ranch, the Santa Cruz River. Now preserved as county-owned open space, the Canoa Ranch Rural Historic Landscape and its many historic resources are powerful reminders of the importance of cattle ranching in the history of Arizona.

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10. GEOGRAPHICAL DATA

The boundary of the Canoa Ranch Rural Historic Landscape is depicted on the accompanying USGS maps and in Figure 2 (Additional Documentation). The depiction on the USGS maps includes 16 UTM reference points:

Point No.	UTM Zone	Easting	Northing	Location
Point 1.	Zone 12N	499210	3519343	NW corner
Point 2.	Zone 12N	501290	3518104	NE corner
Point 3.	Zone 12N	498249	3510957	SE corner
Point 4.	Zone 12N	495865	3512379	SW corner
Point 5.	Zone 12N	496557	3513927	West side indentation No.1
Point 6.	Zone 12N	496751	3514074	West side indentation No.1
Point 7.	Zone 12N	496857	3514310	West side indentation No.1
Point 8.	Zone 12N	496849	3514581	West side indentation No.1
Point 9.	Zone 12N	498142	3516967	West side indentation No.2
Point 10.	Zone 12N	498184	3516948	West side indentation No.2
Point 11.	Zone 12N	498208	3517111	West side indentation No.2
Point 12.	Zone 12N	498163	3517111	West side indentation No.2
Point 13.	Zone 12N	498770	3518457	West side indentation No.3
Point 14.	Zone 12N	498903	3518424	West side indentation No.3
Point 15.	Zone 12N	498975	3518713	West side indentation No.3
Point 16.	Zone 12N	498922	3518718	West side indentation No.3

Boundary Justification

The Canoa Ranch Rural Historic Landscape is a single rectangular parcel of approximately 4,960 acres, owned in its entirety by Pima County. The county bought the principal portion of the property (4,653 acres) in 2001, then more recently acquired a small, adjacent parcel to reach the current total acreage. The Canoa Ranch Rural Historic Landscape is part of the former San Ignacio de la Canoa, a private land grant of approximately 17,000 acres established in 1821, at the very end of the Spanish Colonial period in southern Arizona. Although the Canoa Ranch Rural Historic Landscape preserves less than a third of the original acreage of the land grant, it encompasses its historical core, including the most important buildings, structures, and landscape features associated with its history. It also preserves part of the boundary of the land grant, the rectangular shape of the grant, and its orientation to the Santa Cruz River.

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The southern and eastern district boundaries correspond to the land grant boundary as surveyed by the GLO in 1900, after the original 1821 grant was confirmed by the U.S. Court of Private Land Claims.

The northern district boundary corresponds to the line between the north and south halves of the grant, established when the north half was sold off by Levi Manning in 1916. The north half of the grant was subsequently developed for commercial agriculture and as part of the Green Valley residential community. The south half remained in Manning family ownership until the 1960s.

The western district boundary corresponds to the eastern edge of the Interstate 19 right-of-way, which separates the district from land that was once part of the south half of the land grant. The land west of the interstate now belongs to various private landholders and has been largely subdivided for residential development. The western district boundary is the only boundary defined recently, but it does correspond to the western limit of the portion of the ranch used most intensively during the period of significance.

The slightly irregular appearance of the western boundary reflects the presence of various easements associated with the interstate right-of-way. Three of the minor jogs in the western boundary are represented by UTM reference points in the list above. Several especially small jogs are not represented by UTM reference points.

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**Canoa Ranch Rural Historic Landscape
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Figure 1. Map of Pima County showing location of Canoa Ranch Rural Historic Landscape, original San Ignacio de la Canoa land grant, and Canoa Ranch holdings in 1953.

Figure 2. Topographic map showing boundaries of Canoa Ranch Rural Historic Landscape.

Figure 3. 1936 Soil Conservation Service aerial photograph of Canoa Ranch, showing boundaries of the Canoa Ranch Rural Historic Landscape.

Figure 4. 1967 Soil Conservation Service aerial photograph of Canoa Ranch, showing boundaries of the Canoa Ranch Rural Historic Landscape.

Figure 5. Modern aerial photograph of Canoa Ranch, showing boundaries of the Canoa Ranch Rural Historic Landscape.

Figure 6. Sketch map of major features on the Canoa Ranch Rural Historic Landscape.

Figure 7. The Tucson-Nogales Railroad, near the south end of the Canoa Ranch Rural Historic Landscape, camera facing south.

Figure 8. Wooden trestle bridge on the Canoa Ranch portion of the Tucson-Nogales Railroad.

Figure 9. Wooden trestle bridge, with recent steel beam repair, on the Canoa Ranch portion of the Tucson-Nogales Railroad.

Figure 10. Modern concrete bridge on the Canoa Ranch portion of the Tucson-Nogales Railroad.

Figure 11. Ranch road leading from Interstate 19 frontage road to the South Residential Cluster, camera facing east.

Figure 12. Main north-south ranch road, from a point just north of the southern boundary of the Canoa Ranch Rural Historic Landscape, camera facing south.

Figure 13. East bank of the Santa Cruz River, at the former road crossing near the center of the Canoa Ranch Rural Historic Landscape, camera facing north.

Figure 14. Elephant Head Road, the southern boundary of the Canoa Ranch Rural Historic Landscape, viewed from the southeast corner of the property, camera facing west.

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Figure 15. Marker at the southeast corner of the Canoa Ranch Rural Historic Landscape, placed in 1900 at the southeast corner of the confirmed San Ignacio de la Canoa land grant.

Figure 16. Abandoned agricultural fields on the west side of the Santa Cruz River, near the center of the Canoa Ranch Rural Historic Landscape, camera facing east.

Figure 17. Abandoned agricultural fields on the west side of the Santa Cruz River, near the southern boundary of the Canoa Ranch Rural Historic Landscape, camera facing east.

Figure 18. Former grazing area on the east side of the Santa Cruz River, in the southern portion of the Canoa Ranch Rural Historic Landscape, camera facing northwest.

Figure 19. Former grazing land at the northeast corner of the Canoa Ranch Rural Historic Landscape, camera facing east.

Figure 20. Former grazing land at the northeast corner of the Canoa Ranch Rural Historic Landscape, camera facing west.

Figure 21. Small, unnamed wash on the east side of the Santa Cruz River, near the northern boundary of the Canoa Ranch Rural Historic Landscape, camera facing east.

Figure 22. Mouth of a large wash at the edge of the floodplain on the west side of the Santa Cruz River, about half a mile south of the South Residential Cluster, camera facing east. The barren rocky outcrop at the foot of the Santa Rita Mountains and the center of the photograph is Elephant Head.

Figure 23. Map of the Canoa Ranch Headquarters (all labeled properties are contributing unless marked "NC").

Figure 24. Map of the South Residential Cluster (all labeled properties are contributing).

Figure 25. Map of the Canal Head Cluster (all labeled properties are contributing).

Figure 26. Plan of the Big House, or Howell Manning, Sr., Family House (No. 1).

Figure 27. Interior and exterior views of the Big House, or Howell Manning, Sr., Family House (No. 1), published in *Architectural Forum* 7 August 1937.

Figure 28. Plan of the Howell Manning, Jr., Family House (No. 4), based on a plan prepared by CDG Architects in 1995.

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Figure 29. Howell Manning, Jr., Family House (No. 4), prior to the remodeling begun in 1947; date and photographer unknown. From the personal collection of Louise Manning-Catron, Tucson.

Figure 30. Plan of the Foreman's House (No. 10), based on a plan prepared by CDG Architects in 1995.

Figure 31. The Foreman's House (No. 10), published in *The Pure-Bred Herefords of the Canoa Ranch and Scotch Farms* (MacTavish 1924).

Figure 32. Wash house with rooftop water tank, South Residential Cluster, camera facing west.

Figure 33. One of two large pit silos, Canal Head Cluster, camera facing east.

Figure 34. Truck scale foundation, Canal Head Cluster, camera facing southeast.

Figure 35. Remains of a cattle-feeding trough, Canal Head Cluster, camera facing west.

Figure 36. Concrete gate boxes (one rectangular, one cylindrical) for buried concrete irrigation pipeline, located on west side of ranch property midway between the Canal Head and South Residential Clusters.

Figure 37. Wellhead, pump-mounting slab, and cylindrical gate boxes (all of concrete), located on west side of ranch property midway between the Canal Head and South Residential Clusters.

Figure 38. Concrete-lined irrigation ditch, located east of Santa Cruz River, near southern boundary of Canoa Ranch Rural Historic Landscape, camera facing north.

Figure 39. Concrete water-storage tank and wellhead, located east of Santa Cruz River, near center of agricultural zone, camera facing east.

Figure 40. Wellhead, electric pump, and cylindrical gate box, located east of Santa Cruz River, near center of agricultural zone, camera facing east.

Figure 41. Locations of historical-period archaeological sites on the Canoa Ranch Rural Historic Landscape.

Figure 42. Plat of Township 19 South, Range 13 East, including the southern portion of the San Ignacio de la Canoa land grant, based on the survey by Wolfley in 1885 (Wolfley 1885a).

Figure 43. Plat of Township 19 South, Range 13 East, including the southern portion of the San Ignacio de la Canoa land grant, based on the survey by Contzen in 1900 and 1902 (Contzen 1902b).

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Figure 44. Portion of a draft plat of the San Ignacio de la Canoa land grant, based on the survey by Contzen in 1900 and 1902 (Contzen n.d.).

Figure 45. Portion of the confirmed plat of the San Ignacio de la Canoa land grant, based on the survey by Contzen in 1900 and 1902 (from Contzen 1902a).

Figure 46. Map of the San Ignacio de la Canoa land grant submitted to the Court of Private Land Claims in support of an exaggerated claim of 46,698.2 acres (Bonillas 1893).

Uncited Figures

Figure 47. Canoa Ranch Headquarters, published in *The Pure-Bred Herefords of the Canoa Ranch and Scotch Farms* (MacTavish 1924).

Figure 48. The Canoa Canal, published in *The Pure-Bred Herefords of the Canoa Ranch and Scotch Farms* (MacTavish 1924).

Figure 49. Entrance to Canoa Ranch Headquarters, camera facing east, with the Tucson-Nogales Highway in the foreground and the Santa Rita Mountains in the background; date and photographer unknown. From the personal collection of Louise Manning-Catron, Tucson.

Figure 50. Corrals at Canoa Ranch Headquarters; date and photographer unknown. From the personal collection of Louise Manning-Catron, Tucson.

Figure 51. Invitation to Levi Manning's seventieth birthday, depicting entrance to Canoa Ranch Headquarters; artist and printer unknown. From the personal collection of Louise Manning-Catron, Tucson.

Black-and-White Photographs

Note: The vantage points of Photographs 1–19 are shown in Figure 23. The vantage points for Photographs 20–24 are shown in Figure 25.

Credits: Photographs 1–11, 13, and 15 by Pam Ensign, August 24, 2003 (negatives on file at Janet H. Strittmatter, Inc., Tucson). Photographs 12 and 14 by Pam Asbury-Smith, September 17, 2003 (negatives on file at Statistical Research, Inc., Tucson). Photographs 16–24 by Scott O'Mack, October 7, 2003 (negatives on file at Statistical Research, Inc., Tucson).

Photograph 1. Big House (No. 1), east façade, showing main entry, camera facing northwest.

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Photograph 2. Big House (No. 1), west façade, camera facing southeast.

Photograph 3. Howell Manning, Jr., Family House (No. 4), east façade, camera facing northwest.

Photograph 4. Howell Manning, Jr., Family House (No. 4), west façade showing courtyard and adobe compound walls, camera facing northeast.

Photograph 5. Guest House (No. 3), north façade, camera facing west.

Photograph 6. Foreman's House (No. 10), north façade showing screen porch, camera facing southeast.

Photograph 7. Foreman's House (No. 10), south façade, camera facing northeast.

Photograph 8. Employee's House (No. 5), east façade, camera facing northwest.

Photograph 9. Employee's House (No. 6), north façade, camera facing southwest.

Photograph 10. Storage/Utility Building (No. 7), west façade, camera facing southeast.

Photograph 11. Storage/Utility Building (No. 7), east façade showing deterioration, camera facing southwest.

Photograph 12. Deezie Manning-Catron and Clare Schnauffer by forge, Storage/Utility Building (No. 7), camera facing southeast.

Photograph 13. The Equipment Storage Shed (No. 8), south façade, camera facing northwest.

Photograph 14. Deezie Manning-Catron in Corrals (C), showing *retaque* and other fencing styles, camera facing southeast.

Photograph 15. Adobe wall near owners' residential zone, showing deterioration, camera facing northeast.

Photograph 16. Canoa Canal, along east edge of Canoa Lake, camera facing north.

Photograph 17. Canoa Lake, camera facing south from dry lake interior, Headquarters in background.

Photograph 18. Concrete gate structure in the Canoa Canal, just east of Building 1, camera facing north.
(The upper portion of the structure is wet with rain.)

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Photograph 19. Concrete structure in the Canoa Canal, about midway between the canal head and the concrete structure in Photograph 18, camera facing south.

Photograph 20. Southern of two pit silos near the head of the Canoa Canal, camera facing east.

Photograph 21. Irrigation gate box on the eastern side of the earthen reservoir near the head of the Canoa Canal, camera facing south.

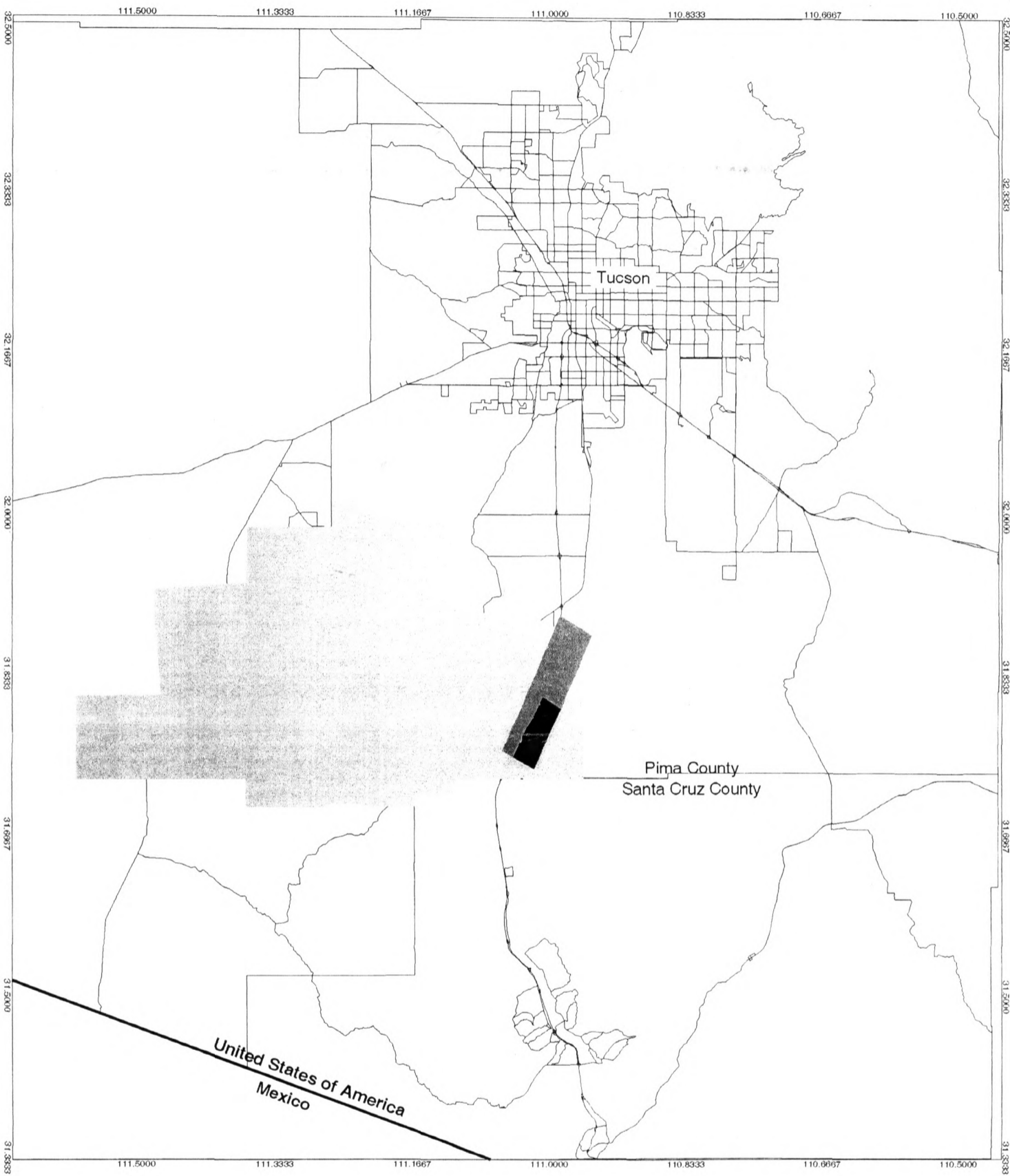
Photograph 22. Remains of a truck scale southwest of the pit silos, camera facing east-southeast.

Photograph 23. Remains of a feeding trough southwest of the pit silos, camera facing west.

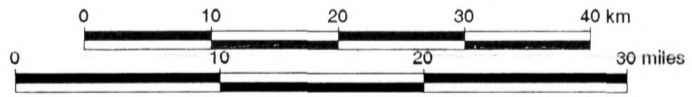
Photograph 24. Galvanized steel grain or silage hopper west of the pit silos, camera facing north.

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Location of Pima and Santa Cruz Counties



Scale 1:600,000
 Base data is outline of Pima and Santa Cruz Counties
 Tucson data source: ESRI Data & Maps bundle 1999
 Universal Transverse Mercator coordinate system and grid
 Zone 12, North American Datum 1927, 1866 Clarke Spheroid
 October 2003, Statistical Research, Inc.

	Canoa Ranch Rural Historic Landscape
	San Ignacio de la Canoa land grant
	1953 Canoa Ranch holdings
	Road
	International border

Figure 1. Map of Pima County showing location of Canoa Ranch Rural Historic Landscape, original San Ignacio de la Canoa land grant, and Canoa Ranch holdings in 1953.

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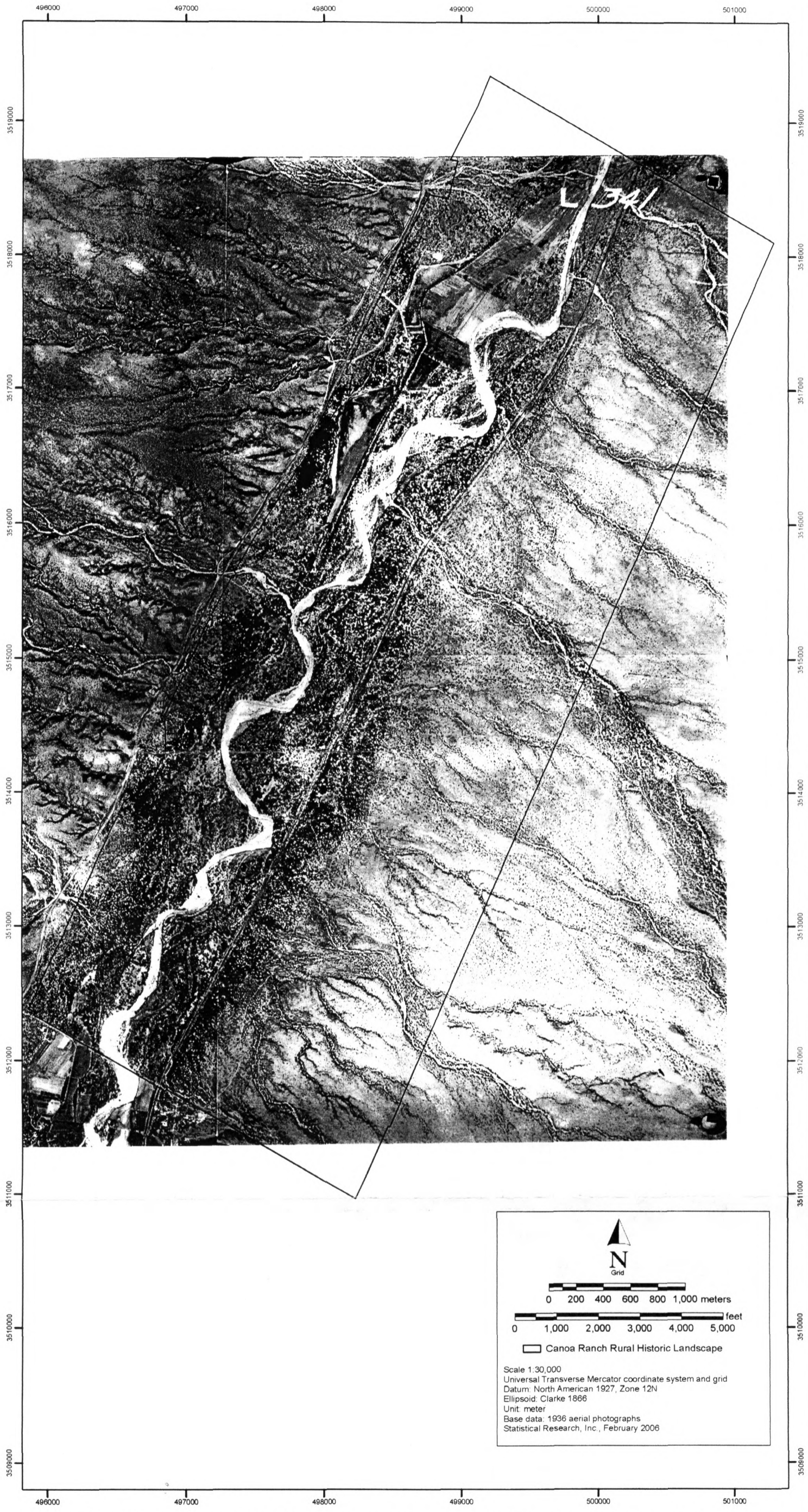


Figure 3. 1936 Soil Conservation Service aerial photograph of Canoa Ranch, showing boundaries of the Canoa Ranch Rural Historic Landscape.

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Figure 4. 1967 Soil Conservation Service aerial photograph of Canoa Ranch, showing boundaries of the Canoa Ranch Rural Historic Landscape.

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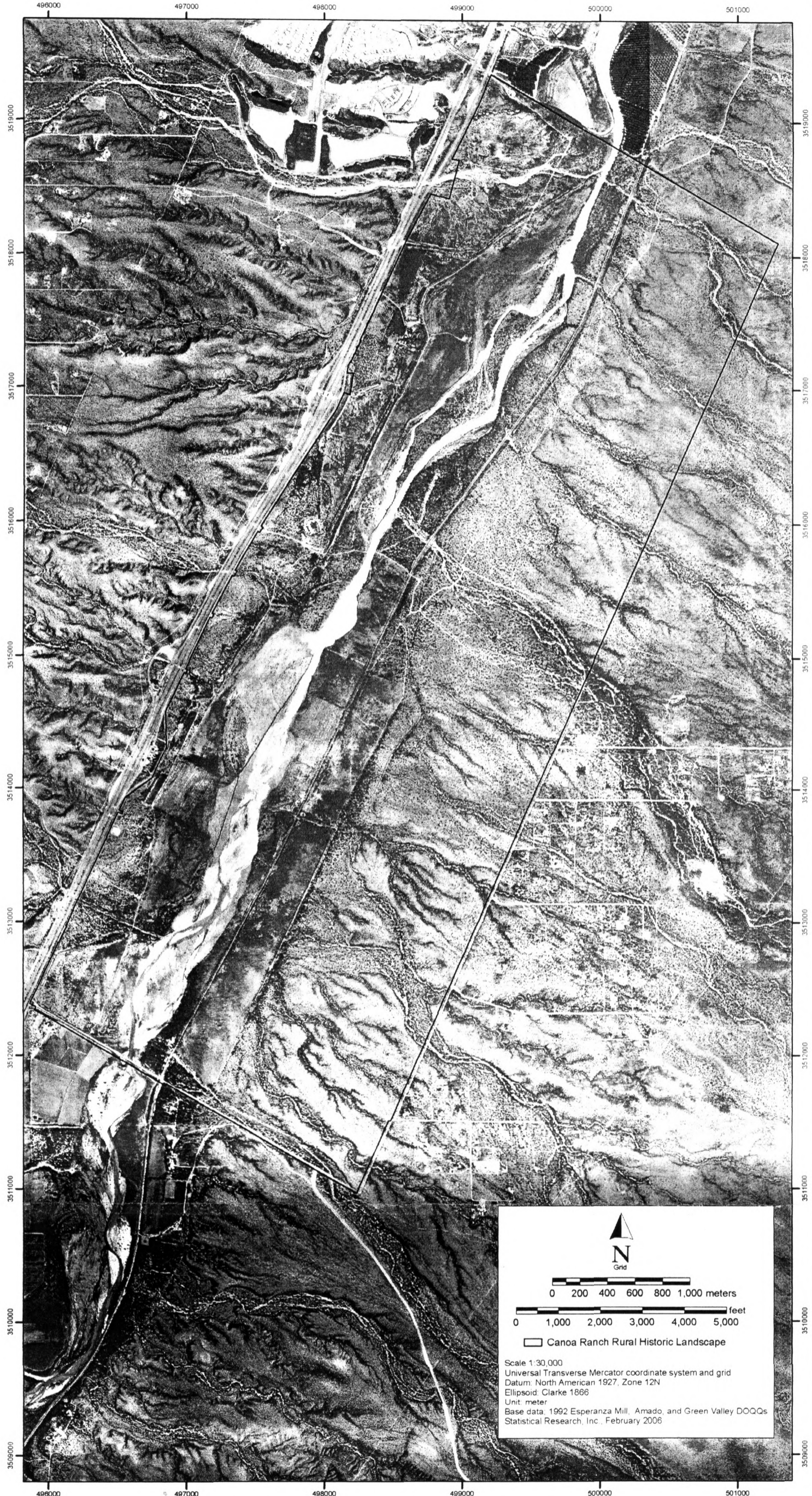


Figure 5. Modern aerial photograph of Canoa Ranch, showing boundaries of the Canoa Ranch Rural Historic Landscape.

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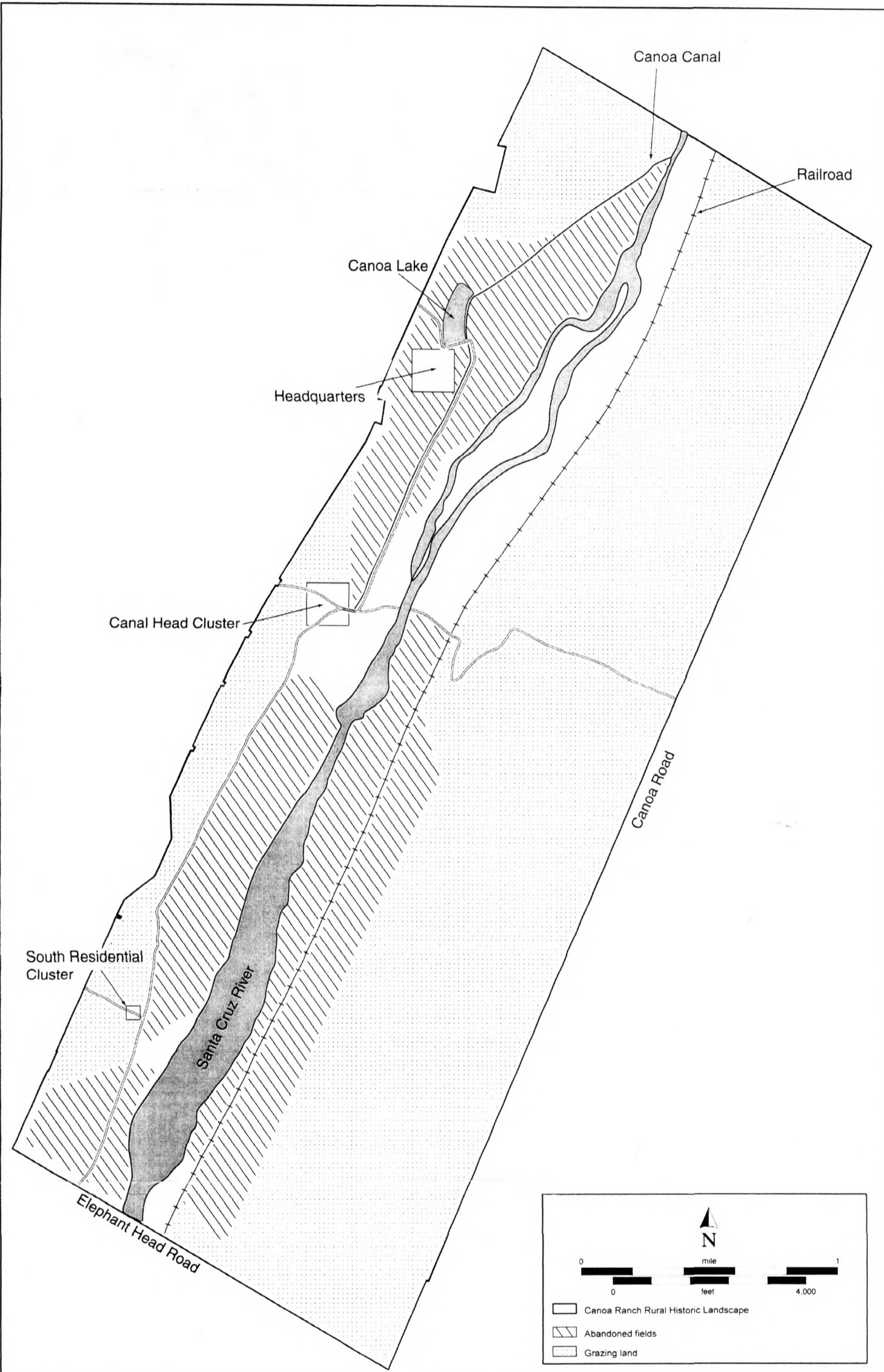


Figure 6. Sketch map of major features on the Canoa Ranch Rural Historic Landscape.

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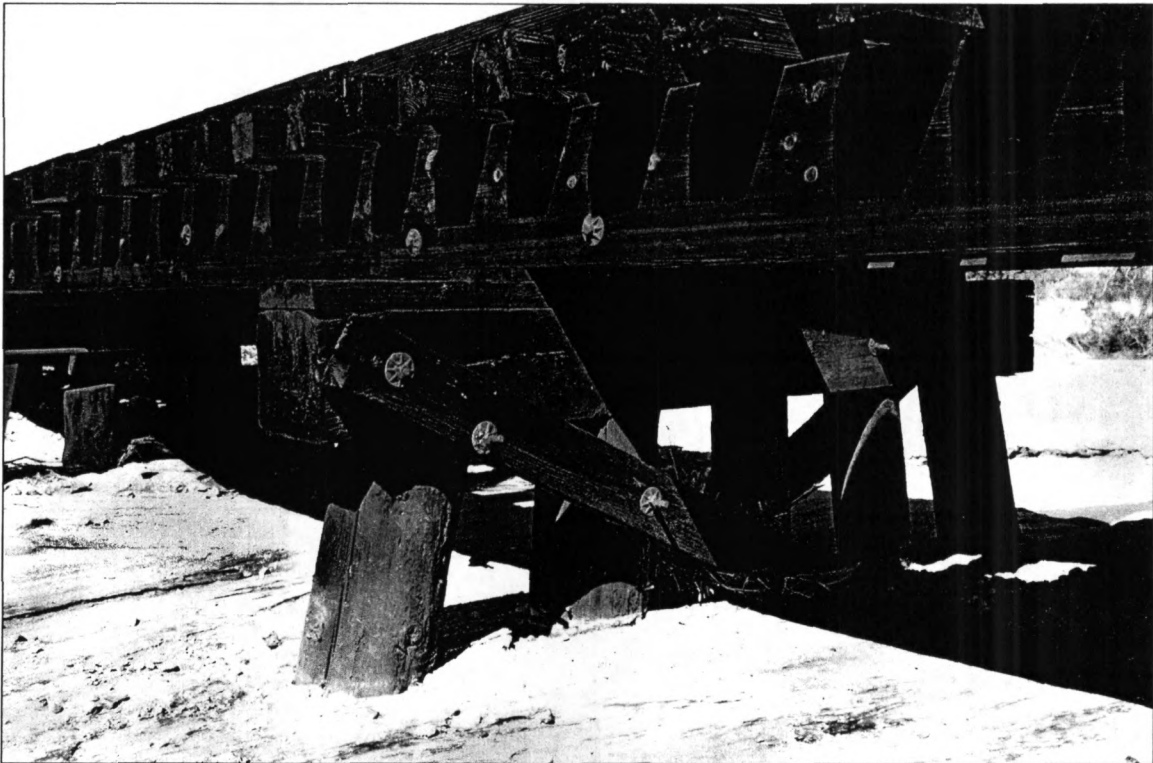
**Figure 7. The Tucson-Nogales Railroad, near the south end of the
Canoa Ranch Rural Historic Landscape, camera facing south.**

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**Figure 8. Wooden trestle bridge on the Canoa Ranch
portion of the Tucson-Nogales Railroad.**

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**Figure 9. Wooden trestle bridge, with recent steel beam repair, on the
Canoa Ranch portion of the Tucson-Nogales Railroad.**

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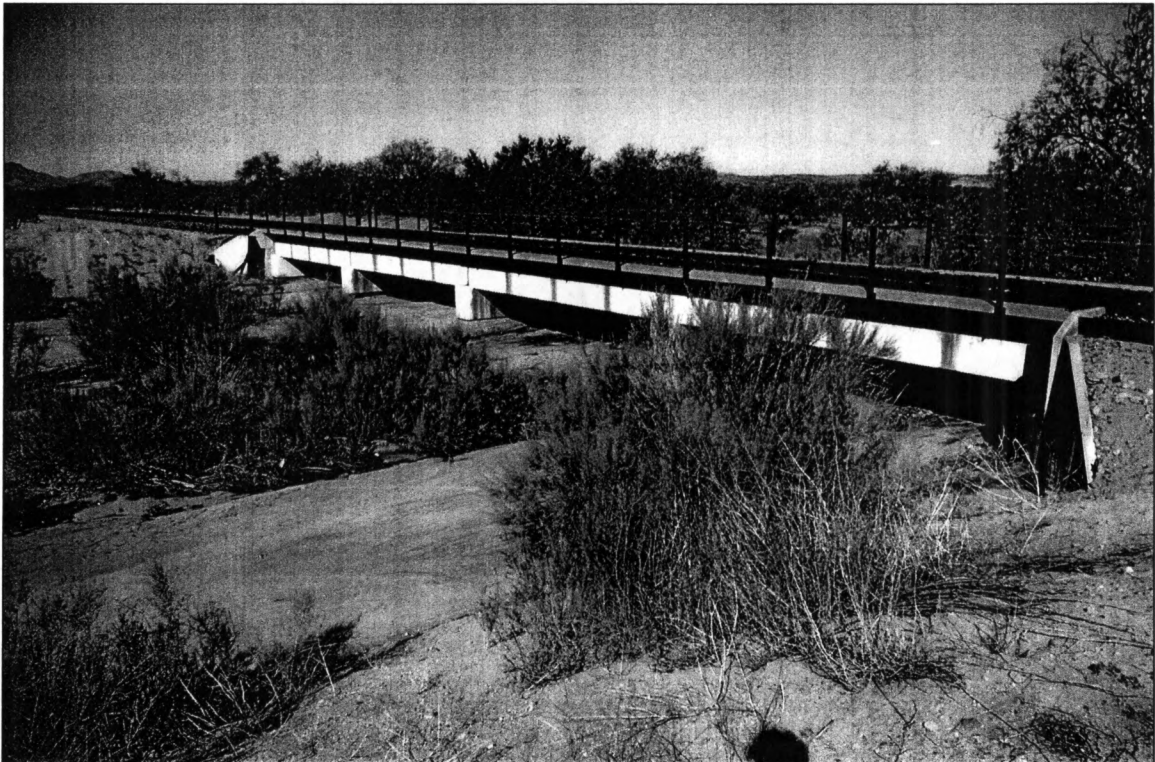


Figure 10. Modern concrete bridge on the Canoa Ranch portion of the Tucson-Nogales Railroad.

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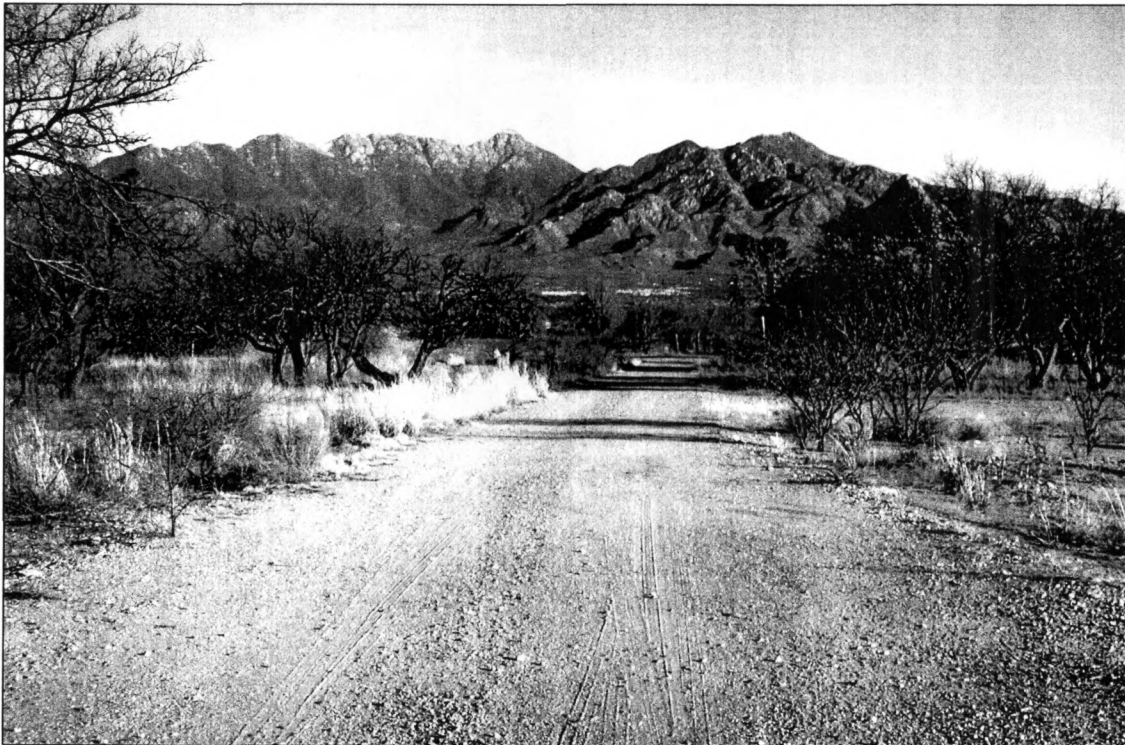


Figure 11. Ranch road leading from Interstate 19 frontage road to the South Residential Cluster, camera facing east.

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Figure 12. Main north-south ranch road, from a point just north of the southern boundary of the Canoa Ranch Rural Historic Landscape, camera facing south.

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Figure 13. East bank of the Santa Cruz River, at the former road crossing near the center of the Canoa Ranch Rural Historic Landscape, camera facing north.

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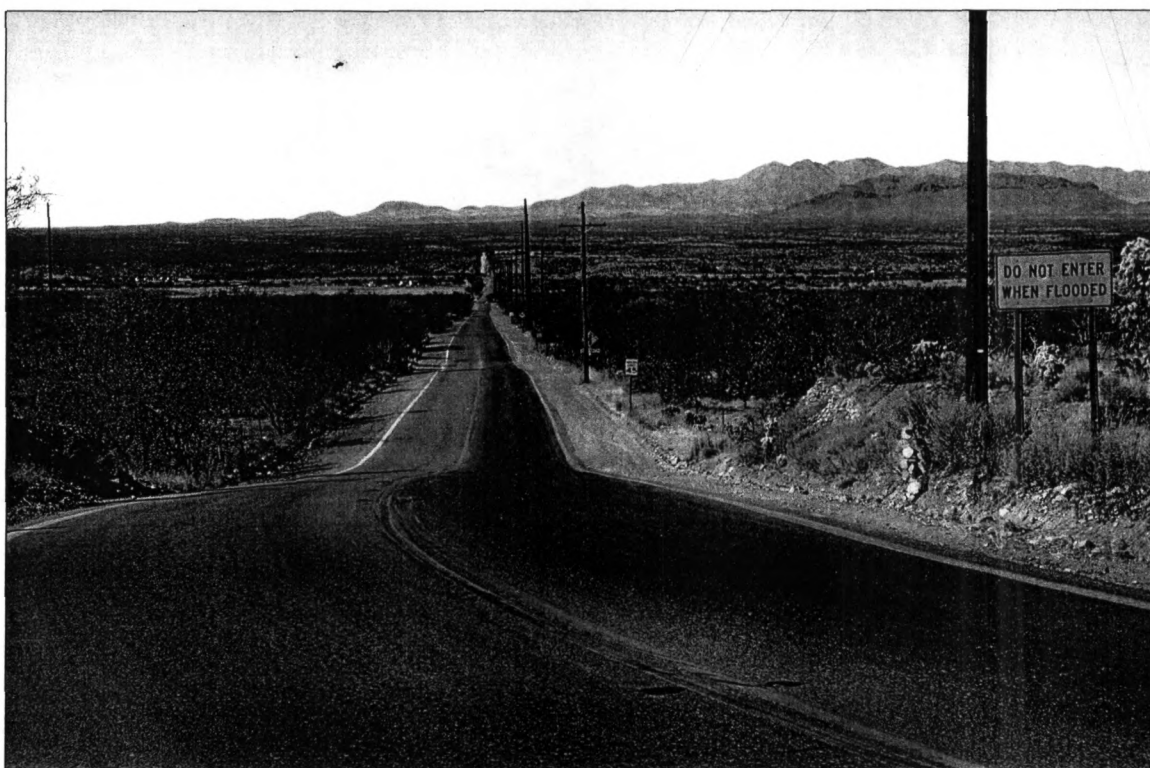


Figure 14. Elephant Head Road, the southern boundary of the Canoa Ranch Rural Historic Landscape, viewed from the southeast corner of the property, camera facing west.

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Figure 15. Marker at the southeast corner of the Canoa Ranch Rural Historic Landscape, placed in 1900 at the southeast corner of the confirmed San Ignacio de la Canoa land grant.

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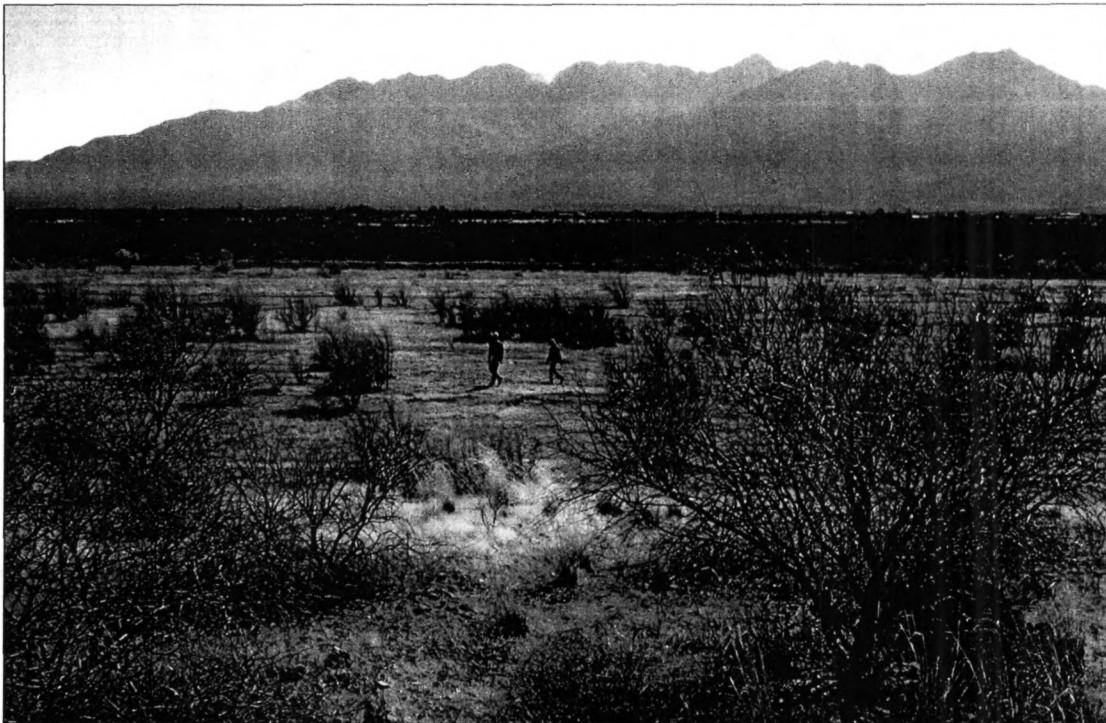


Figure 16. Abandoned agricultural fields on the west side of the Santa Cruz River, near the center of the Canoa Ranch Rural Historic Landscape, camera facing east.

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Figure 17. Abandoned agricultural fields on the west side of the Santa Cruz River, near the southern boundary of the Canoa Ranch Rural Historic Landscape, camera facing east.

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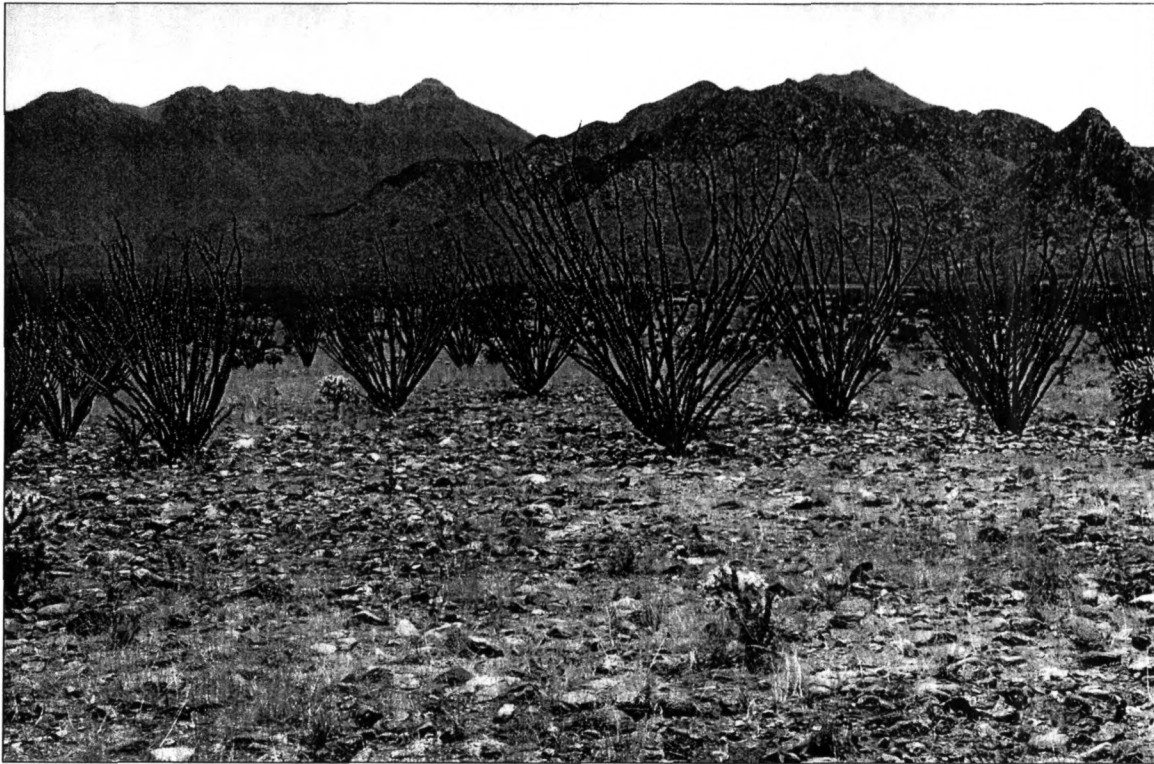
Figure 18. Former grazing area on the east side of the Santa Cruz River, in the southern portion of the Canoa Ranch Rural Historic Landscape, camera facing northwest.

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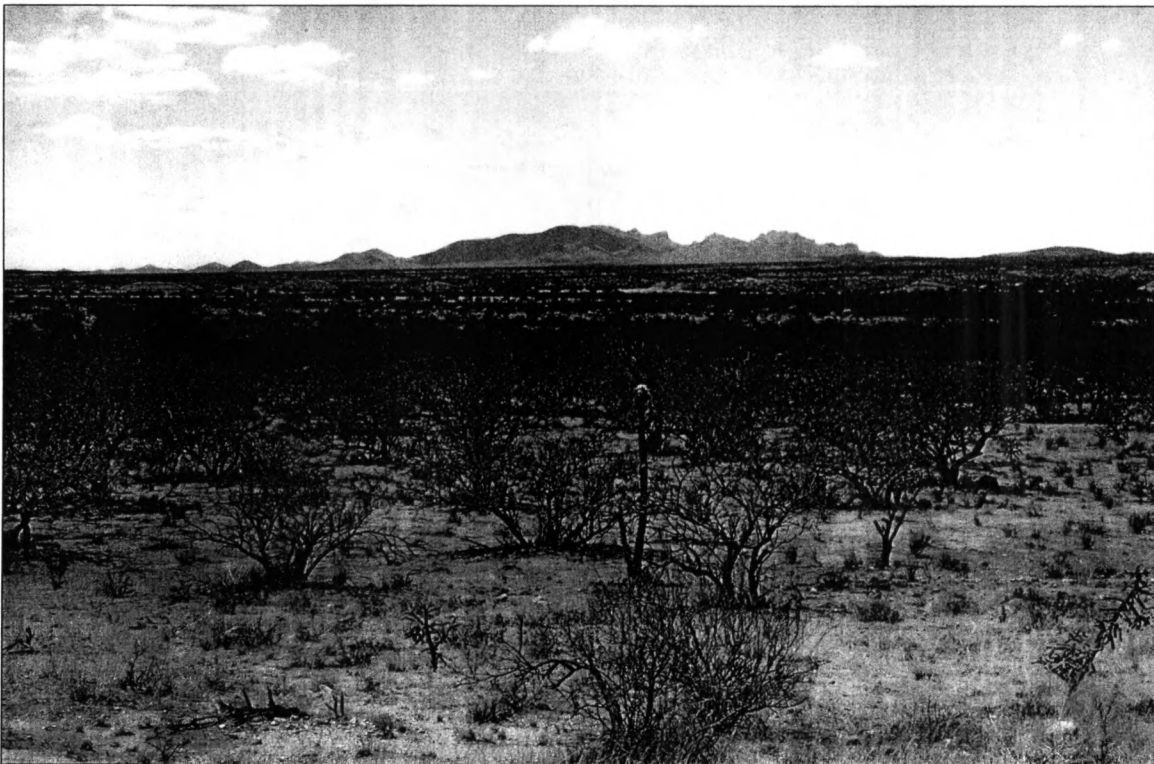
**Figure 19. Former grazing land at the northeast corner of the
Canoa Ranch Rural Historic Landscape, camera facing east.**

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**Figure 20. Former grazing land at the northeast corner of the
Canoa Ranch Rural Historic Landscape, camera facing west.**

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Figure 21. Small, unnamed wash on the east side of the Santa Cruz River, near the northern boundary of the Canoa Ranch Rural Historic Landscape, camera facing east.

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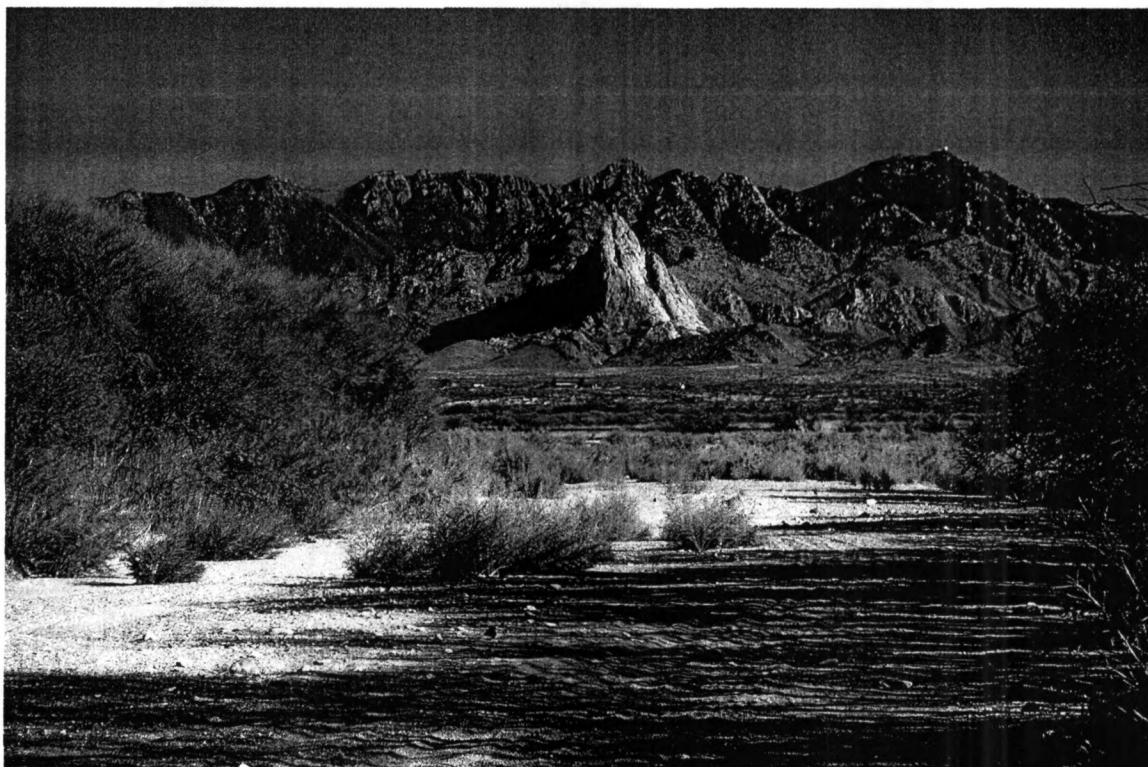


Figure 22. Mouth of a large wash at the edge of the floodplain on the west side of the Santa Cruz River, about half a mile south of the South Residential Cluster, camera facing east. The barren rocky outcrop at the foot of the Santa Rita Mountains and the center of the photograph is Elephant Head.

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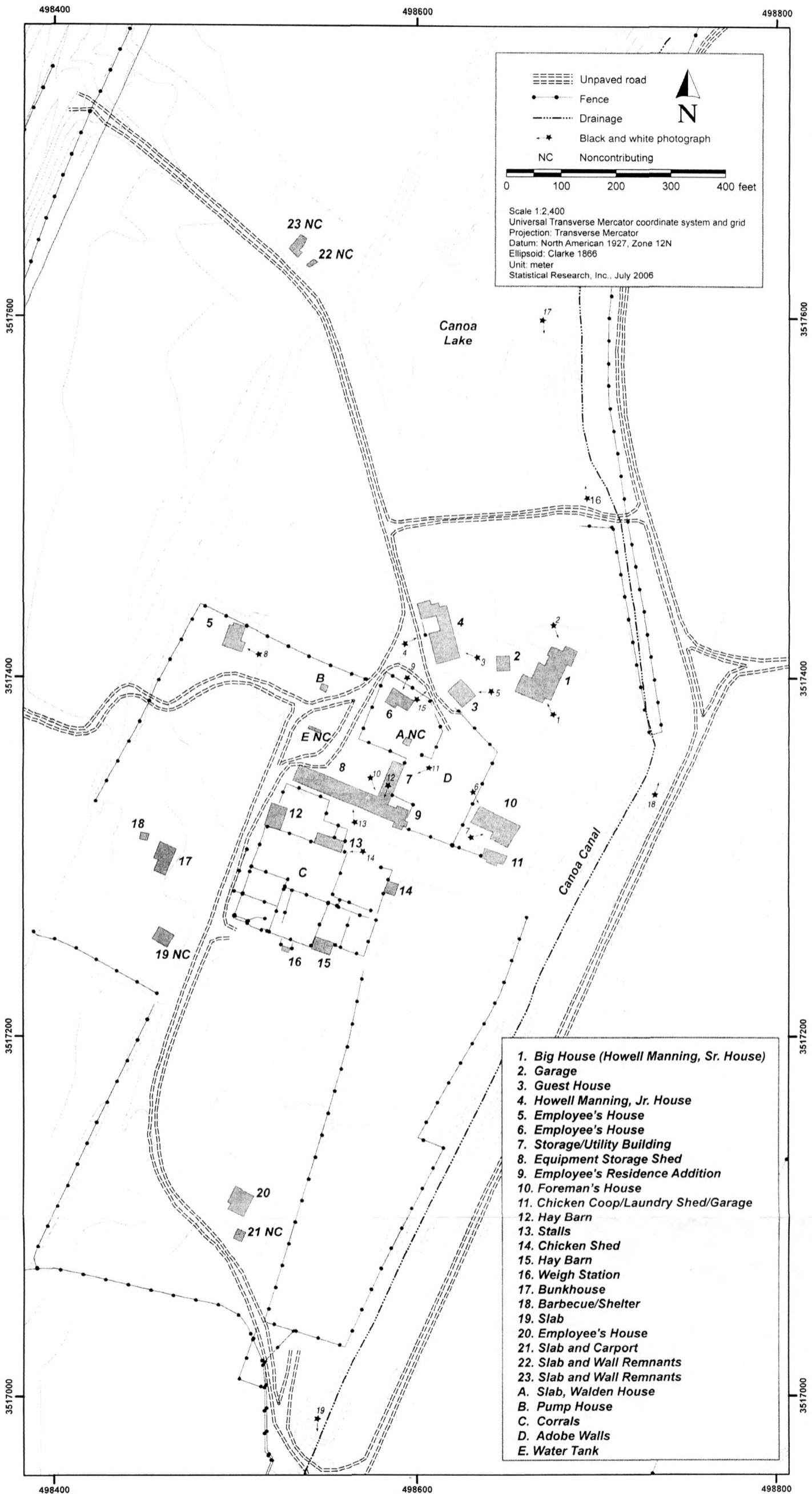


Figure 23. Map of the Canoa Ranch Headquarters (all labeled properties are contributing unless marked "NC").

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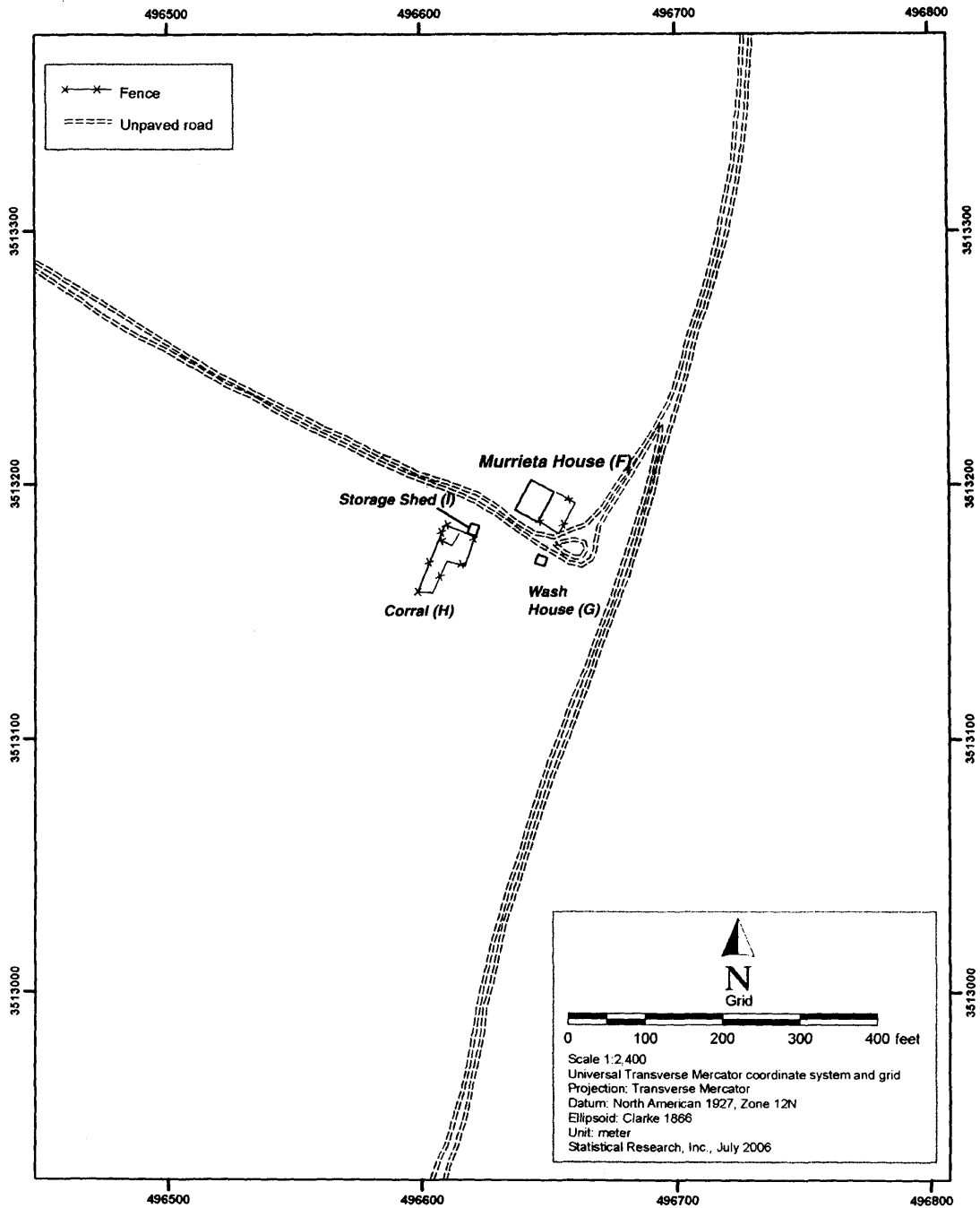


Figure 24. Map of the South Residential Cluster (all labeled properties are contributing).

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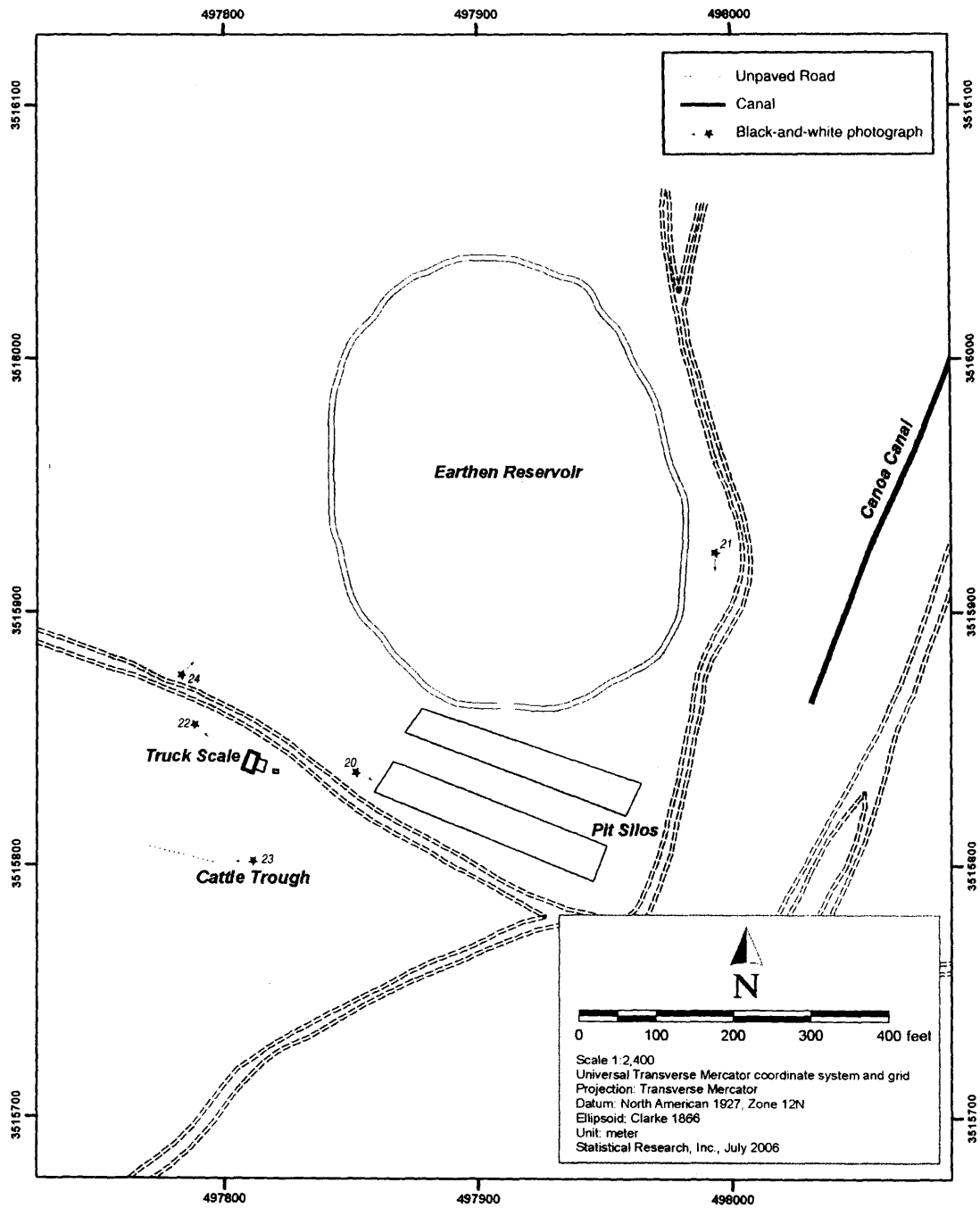


Figure 25. Map of the Canal Head Cluster (all labeled properties are contributing).

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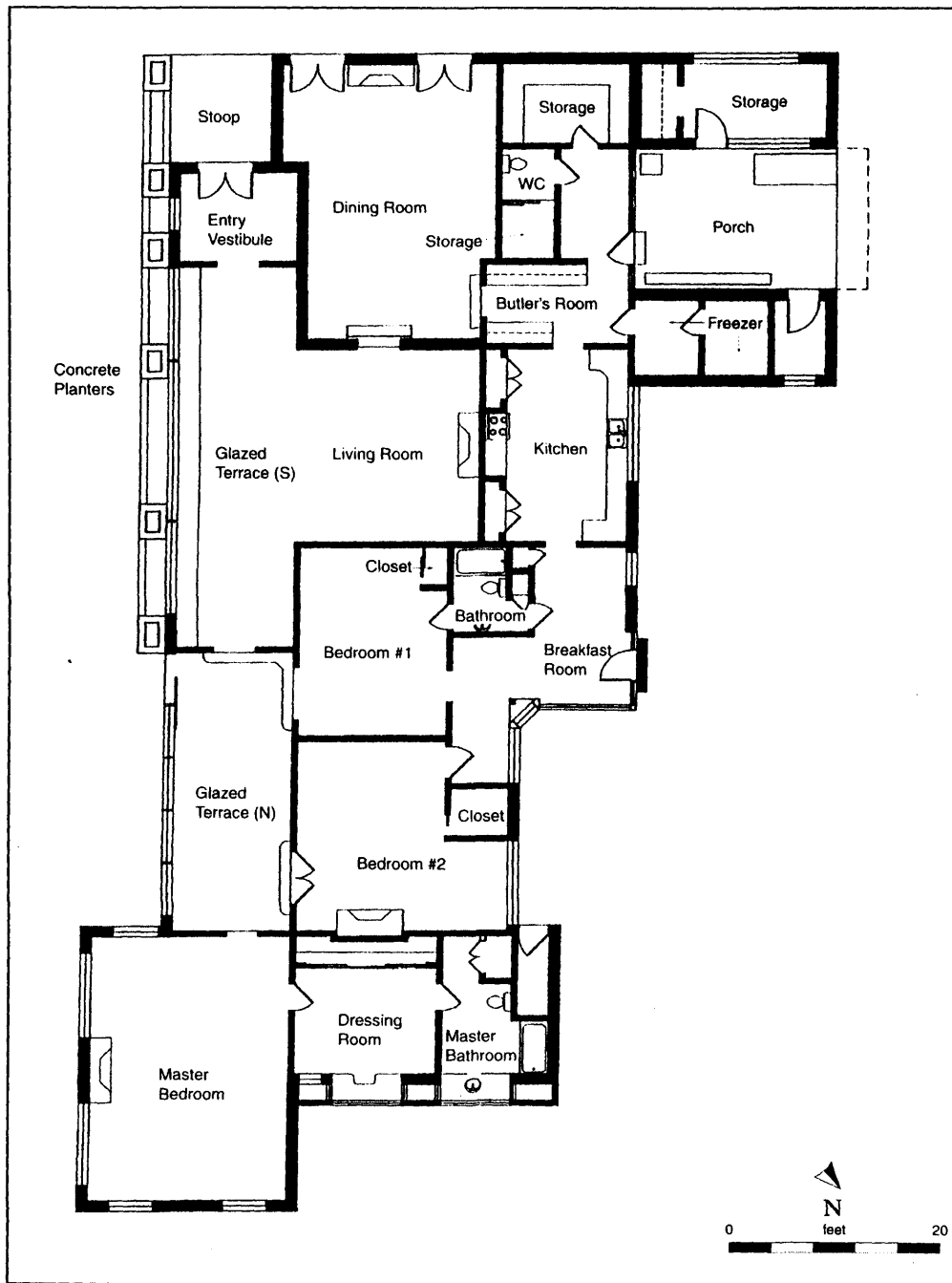


Figure 26. Plan of the Big House, or Howell Manning, Sr., Family House (No. 1), based on a plan prepared by CDG Architects in 1995.

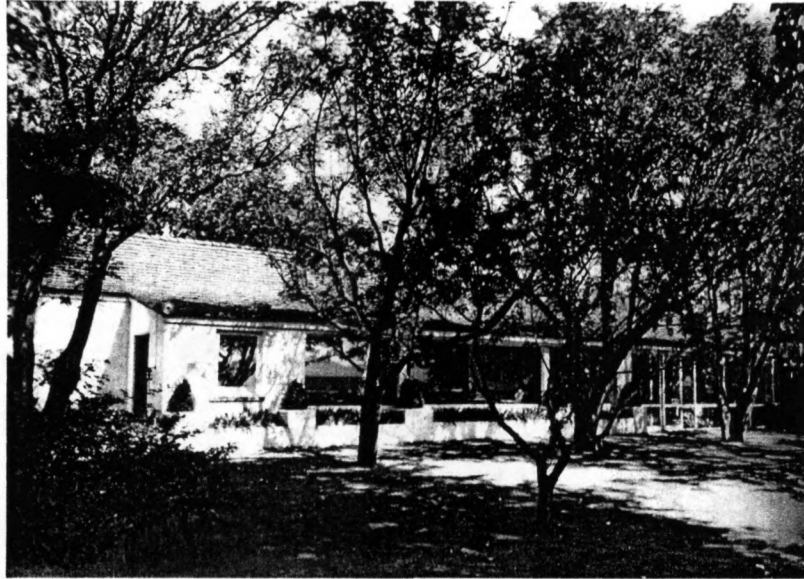
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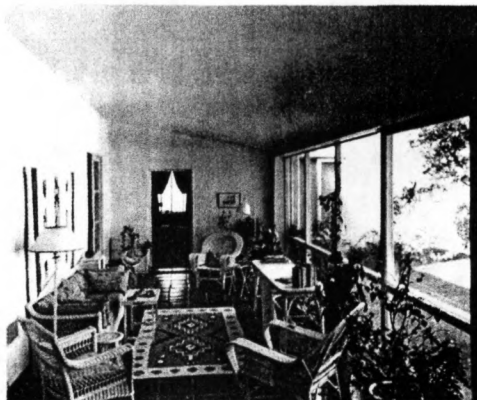
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HOUSE FOR MR. & MRS. HOWELL MANNING, TUCSON, ARIZONA



JOHN W. SMITH, ARCHITECT



Valuable because it shows how much can be done with a narrow space if it is sufficiently glazed the terrace of this Arizona residence indicates that the need for this type of house knows no geographical restriction.

Figure 27. Interior and exterior views of the Big House, or Howell Manning, Sr., Family House (No. 1), published in *Architectural Forum* 7 August 1937.

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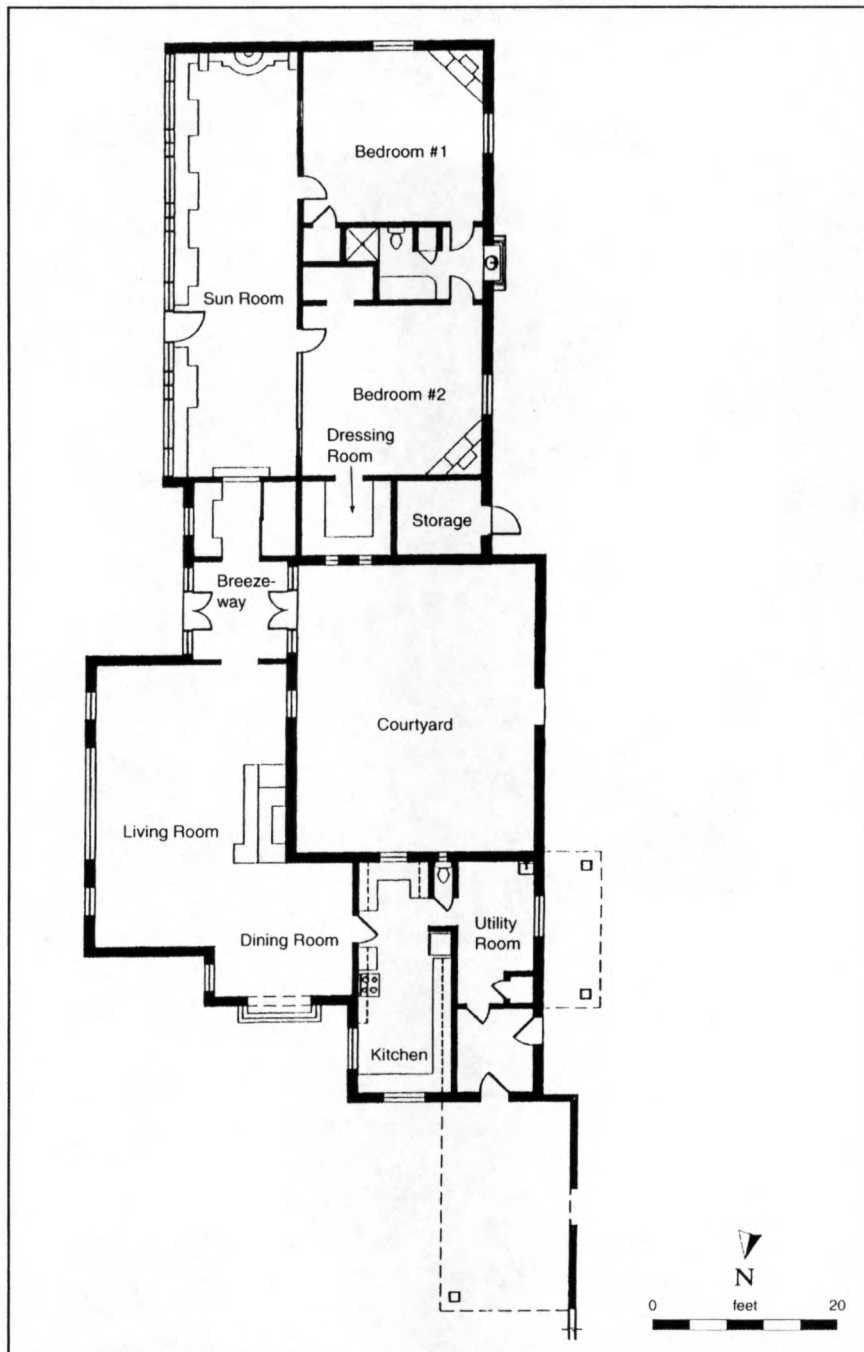


Figure 28. Plan of the Howell Manning, Jr., Family House (No. 4), based on a plan prepared by CDG Architects in 1995.

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Figure 29. Howell Manning, Jr., Family House (No. 4), prior to the remodeling begun in 1947; date and photographer unknown. From the personal collection of Louise Manning-Catron, Tucson.

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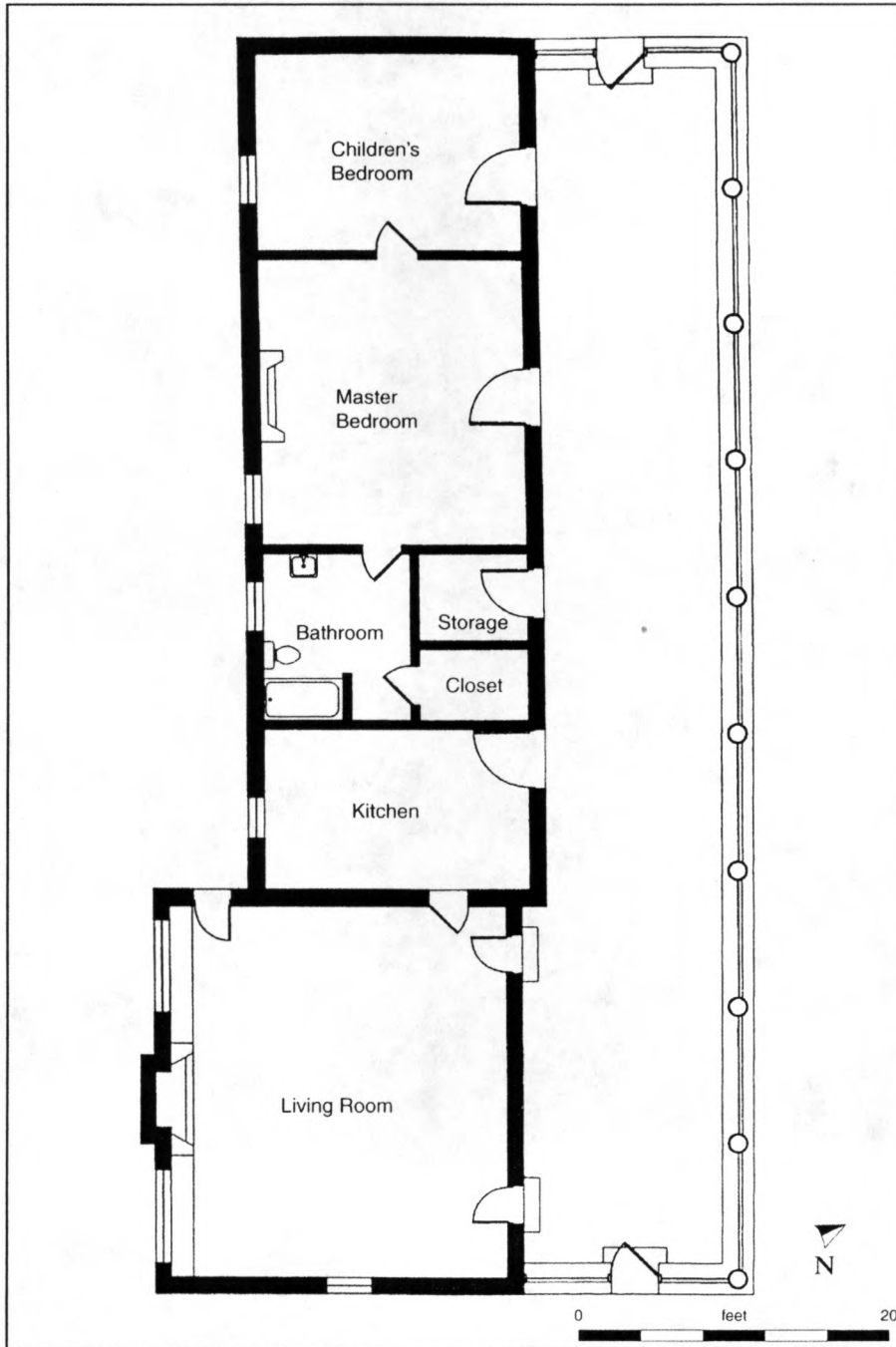


Figure 30. Plan of the Foreman's House (No. 10), based on a plan prepared by CDG Architects in 1995.

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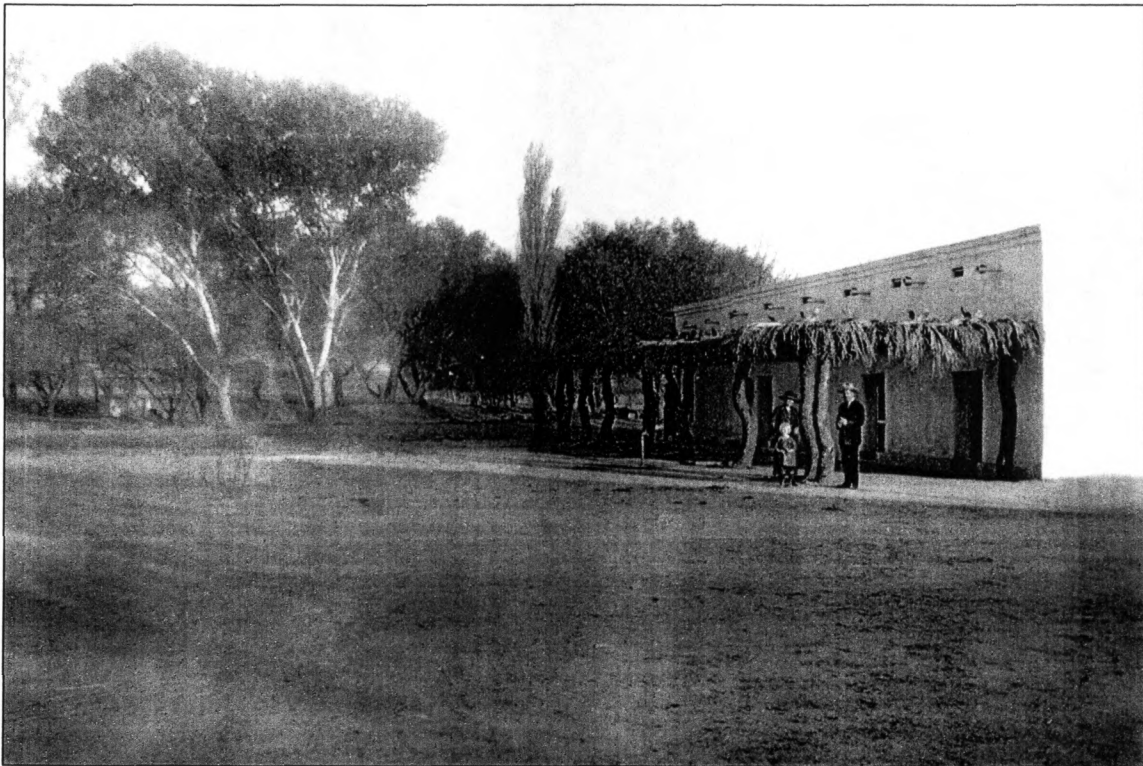


Figure 31. The Foreman's House (No. 10), published in *The Pure-Bred Herefords of the Canoa Ranch and Scotch Farms* (MacTavish 1924).

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**Figure 32. Wash house with rooftop water tank, South Residential Cluster,
camera facing west.**

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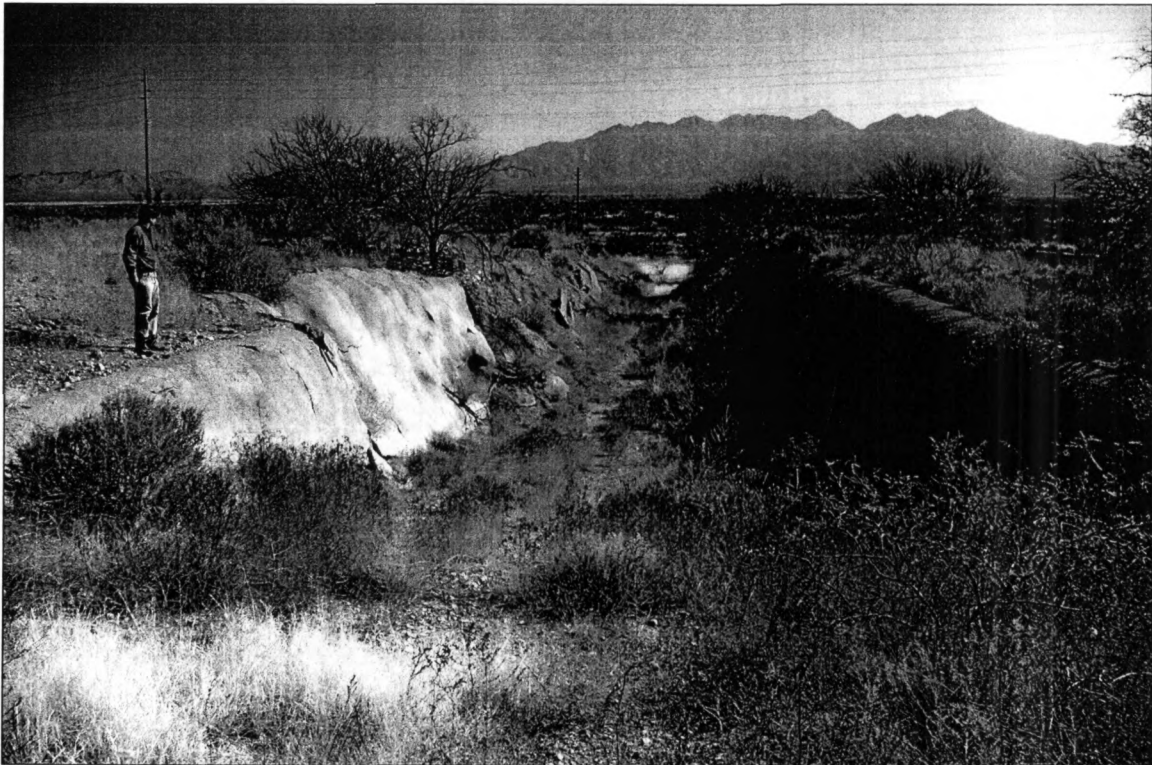


Figure 33. One of two large pit silos, Canal Head Cluster, camera facing east.

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Figure 34. Truck scale foundation, Canal Head Cluster, camera facing southeast.

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Figure 35. Remains of a cattle feeding trough, Canal Head Cluster, camera facing west.

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Figure 36. Concrete gate boxes (one rectangular, one cylindrical) for buried concrete irrigation pipeline, located on west side of ranch property midway between the Canal Head and South Residential Clusters.

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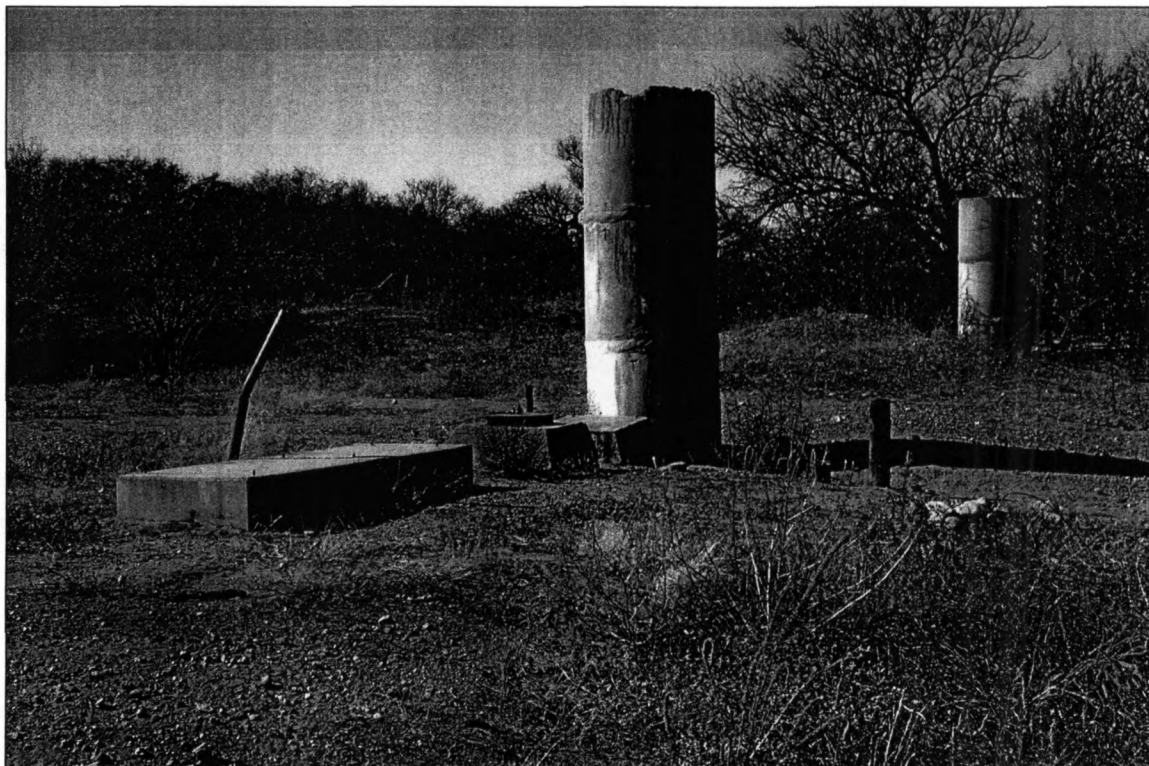


Figure 37. Well head, pump-mounting slab, and cylindrical gate boxes (all of concrete), located on west side of ranch property midway between the Canal Head and South Residential Clusters.

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Figure 38. Concrete-lined irrigation ditch, located east of Santa Cruz River, near southern boundary of Canoa Ranch Rural Historic Landscape, camera facing north.

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Figure 39. Concrete water-storage tank and well head, located east of Santa Cruz River, near center of agricultural zone, camera facing east.

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Figure 40. Well head, electric pump, and cylindrical gate box, located east of Santa Cruz River, near center of agricultural zone, camera facing east.

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Figure 41. Locations of historical-period archaeological sites on the Canoa Ranch Rural Historic Landscape.

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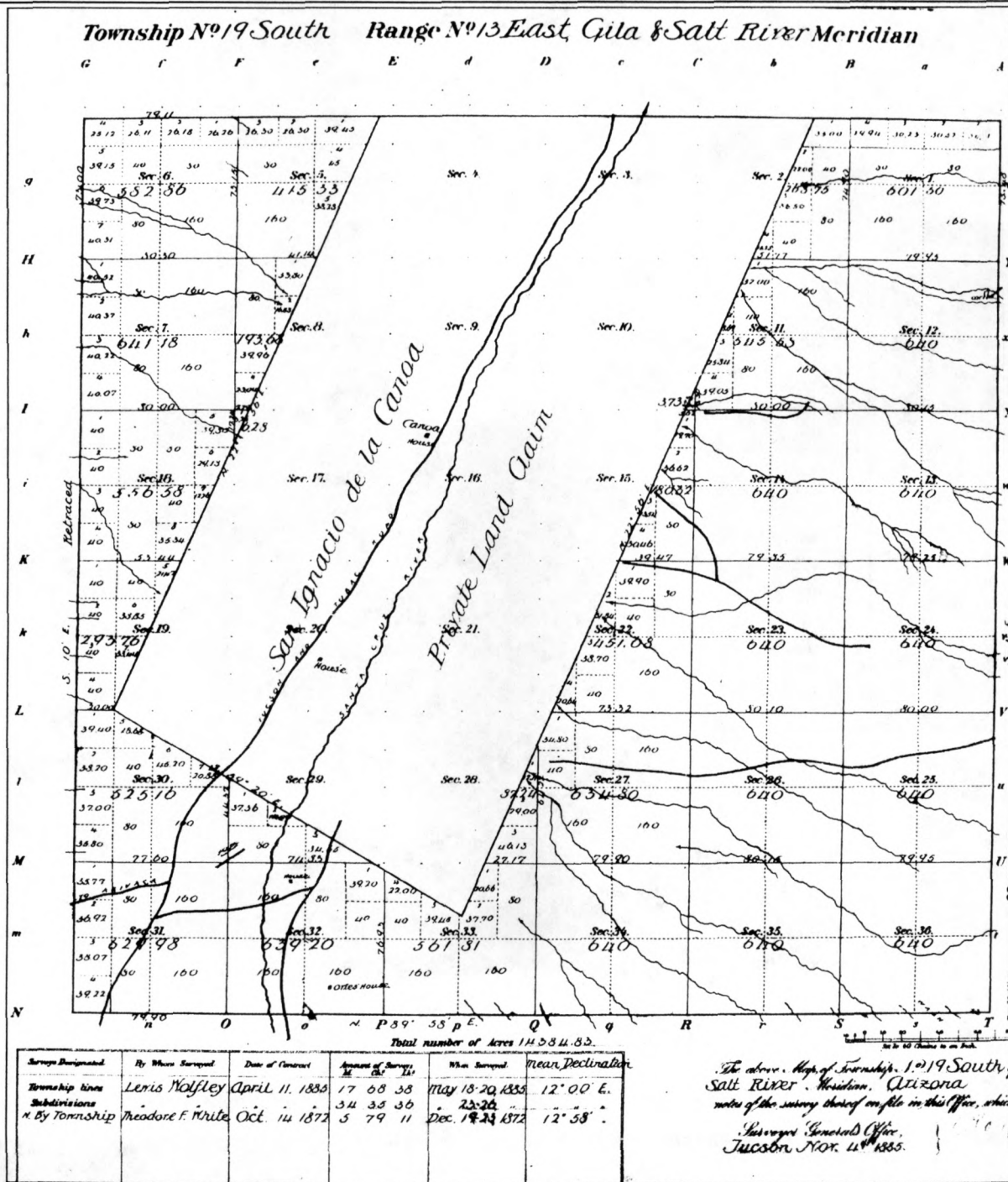


Figure 42. Plat of Township 19 South, Range 13 East, including the southern portion of the San Ignacio de la Canoa land grant, based on the survey by Wolfley in 1885 (Wolfley 1885a).

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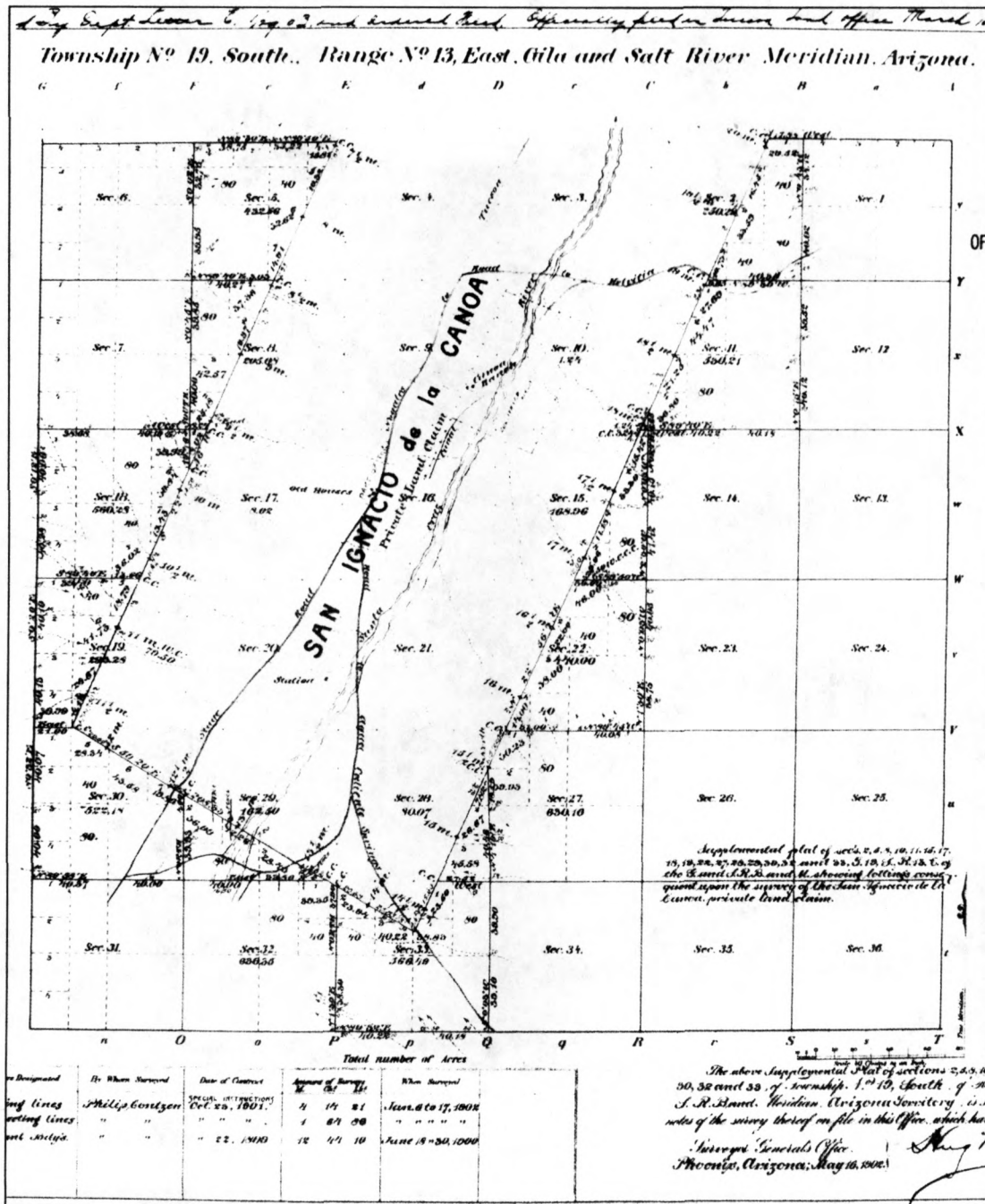


Figure 43. Plat of Township 19 South, Range 13 East, including the southern portion of the San Ignacio de la Canoa land grant, based on the survey by Contzen in 1900 and 1902 (Contzen 1902b).

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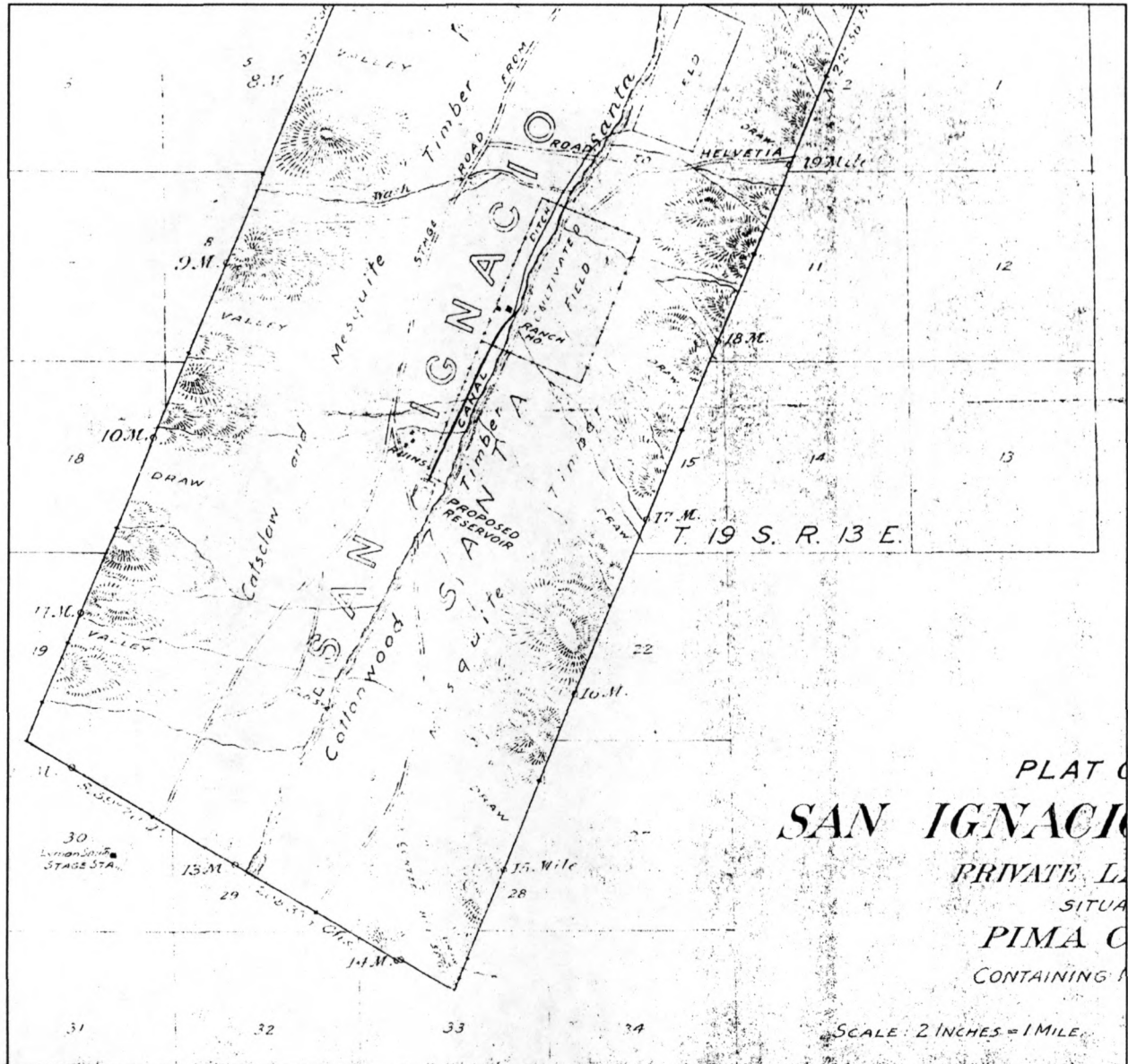


Figure 44. Portion of a draft plat of the San Ignacio de la Canoa land grant, based on the survey by Contzen in 1900 and 1902 (from Contzen n.d.).

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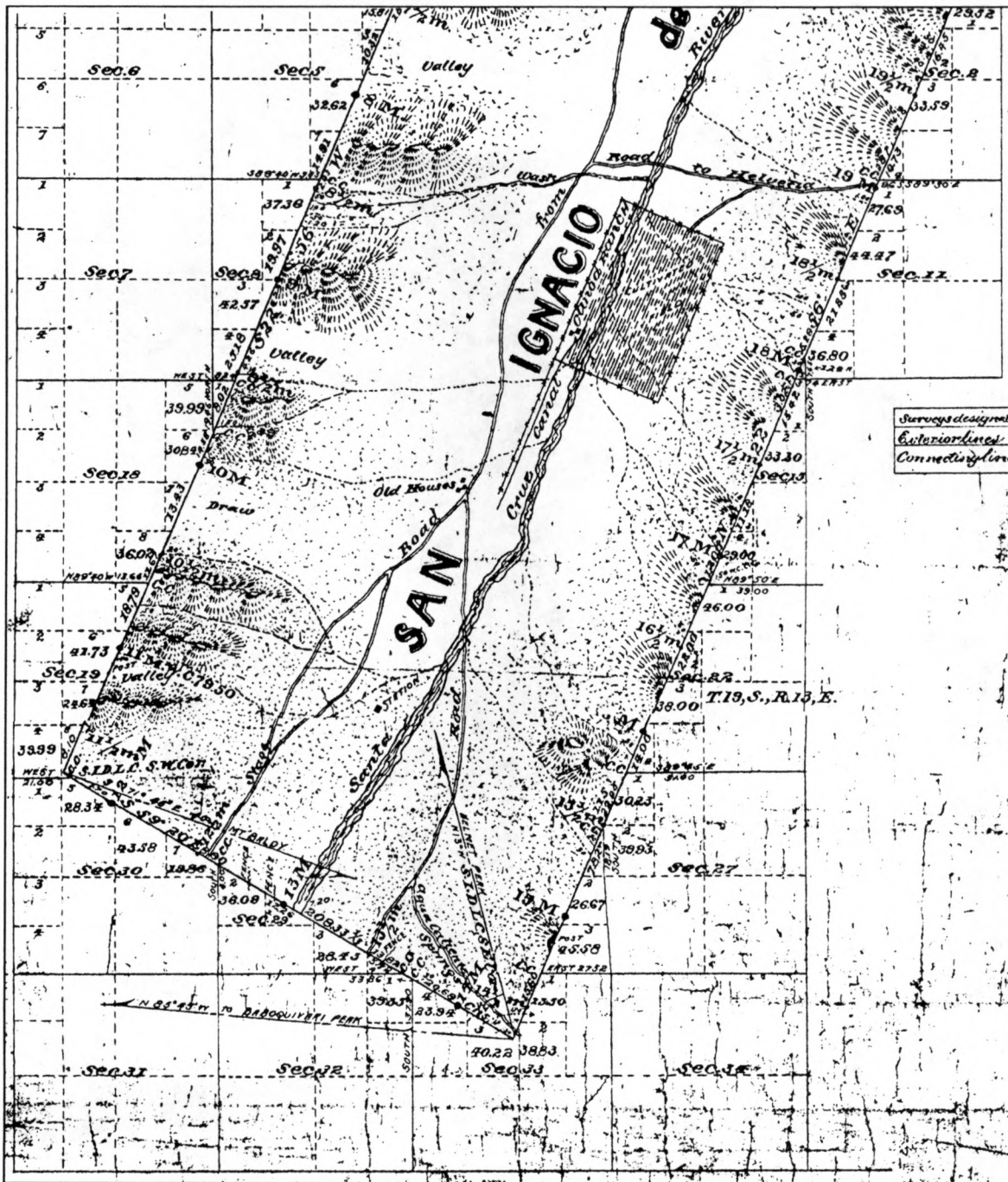


Figure 45. Portion of the confirmed plat of the San Ignacio de la Canoa land grant, based on the survey by Contzen in 1900 and 1902 (from Contzen 1902a).

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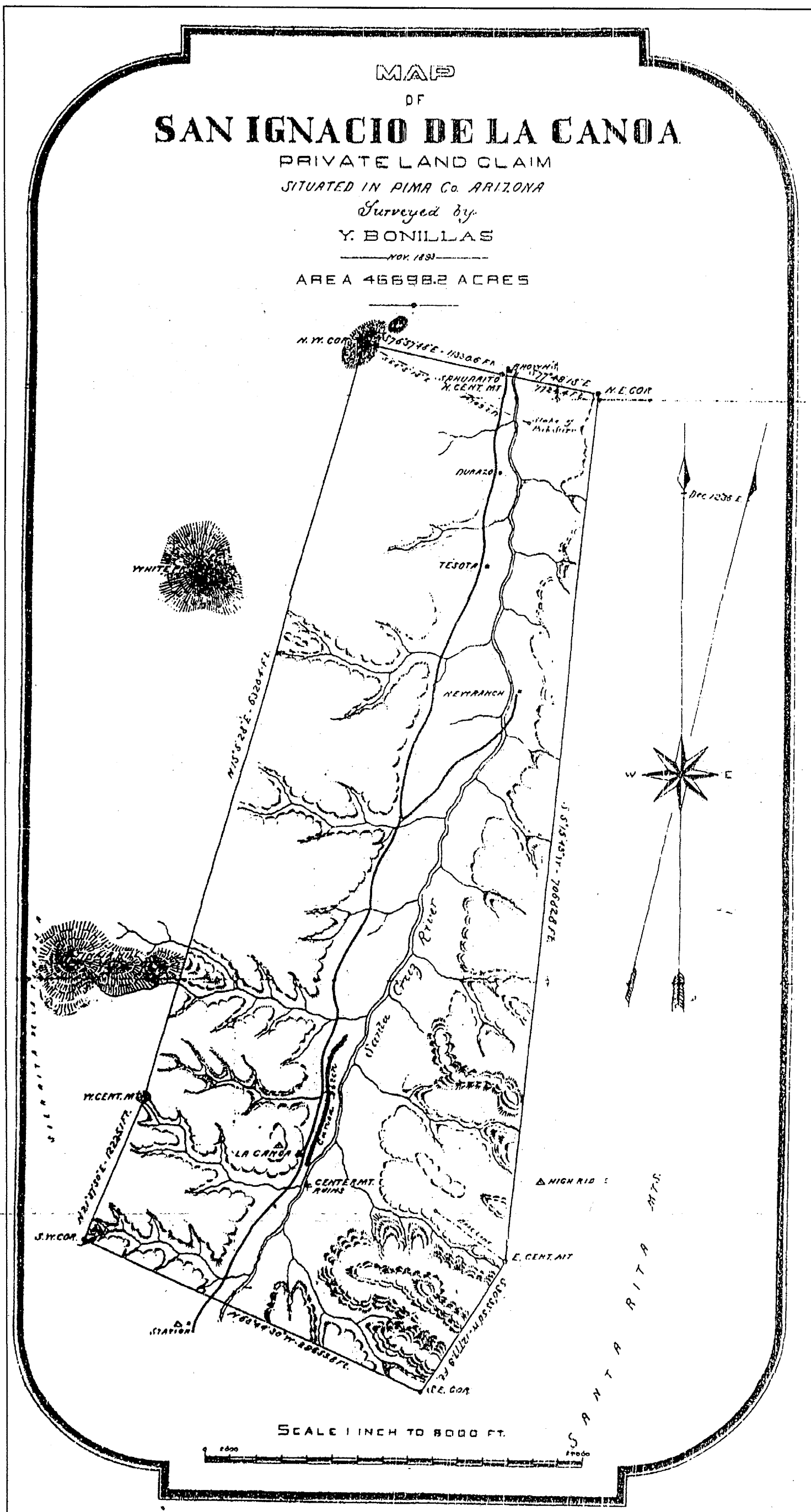


Figure 46. Map of the San Ignacio de la Canoa land grant submitted to the Court of Private Land Claims in support of an exaggerated claim of 46,698.2 acres (Bonillas 1893).

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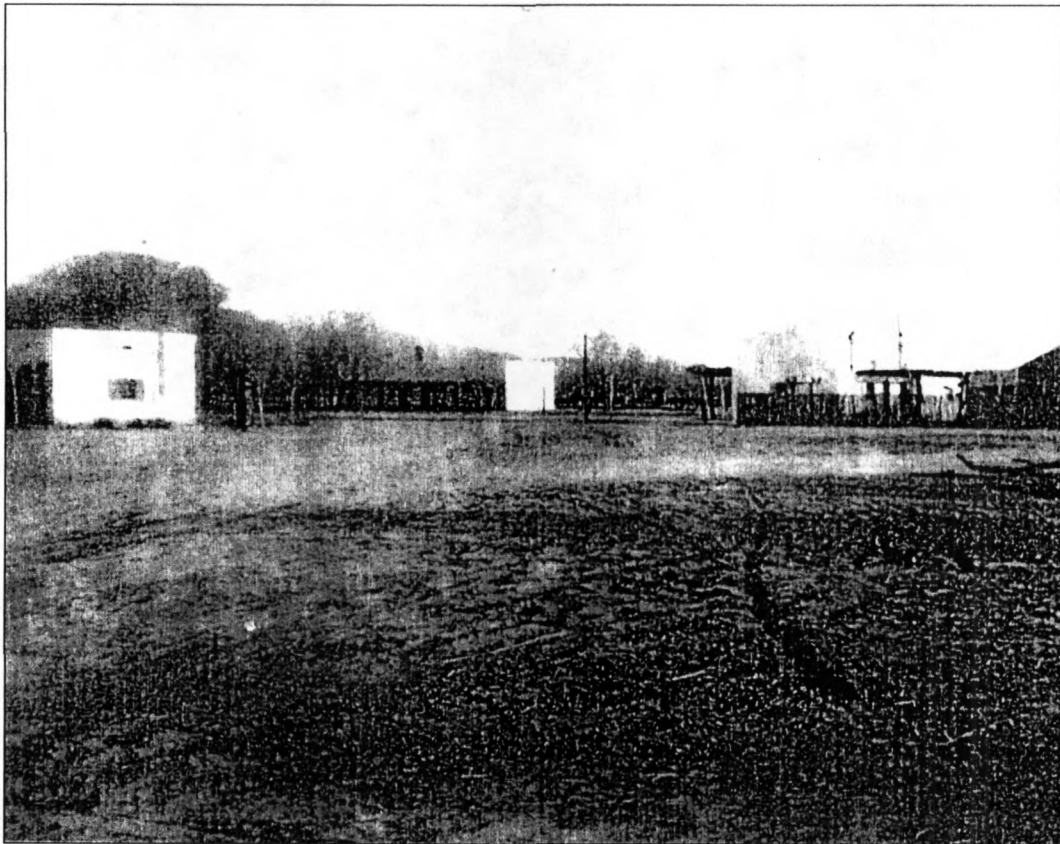


Figure 47. Canoa Ranch Headquarters, published in *The Pure-Bred Herefords of the Canoa Ranch and Scotch Farms* (MacTavish 1924).

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Figure 48. The Canoa Canal, published in *The Pure-Bred Herefords of the Canoa Ranch and Scotch Farms* (MacTavish 1924).

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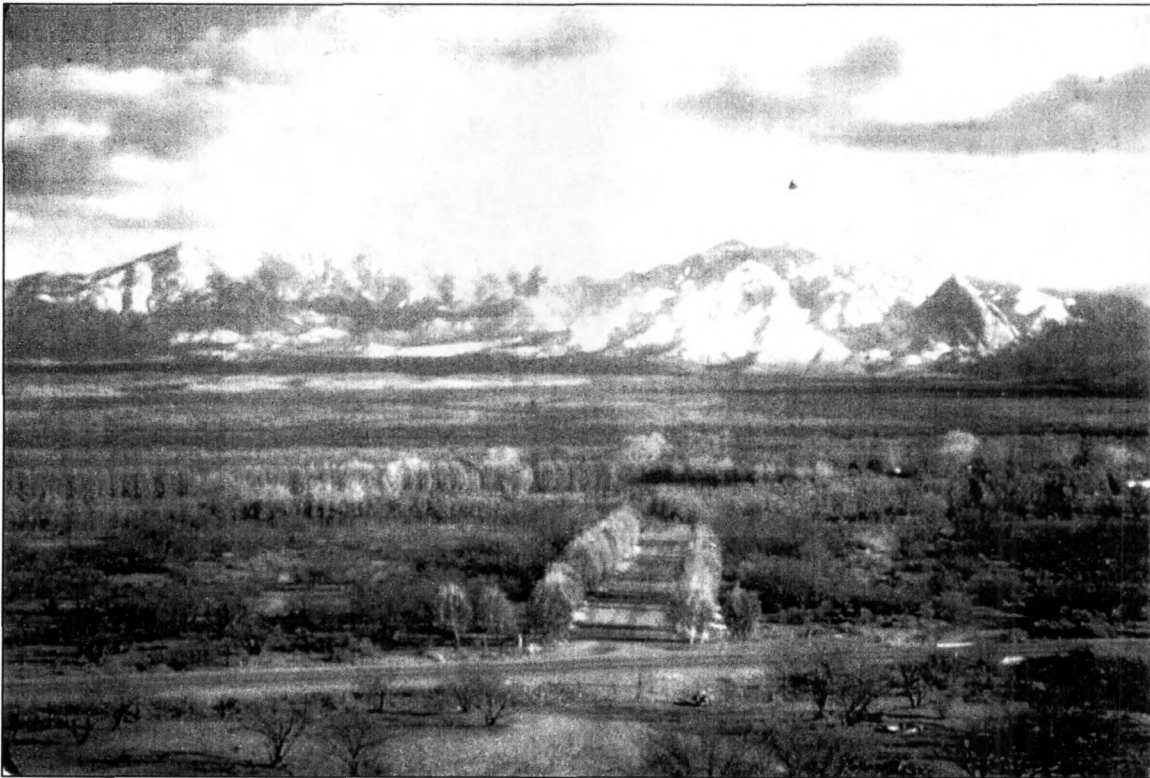


Figure 49. Entrance to Canoa Ranch Headquarters, camera facing east, with the Tucson-Nogales Highway in the foreground and the Santa Rita Mountains in the background; date and photographer unknown. From the personal collection of Louise Manning-Catron, Tucson.

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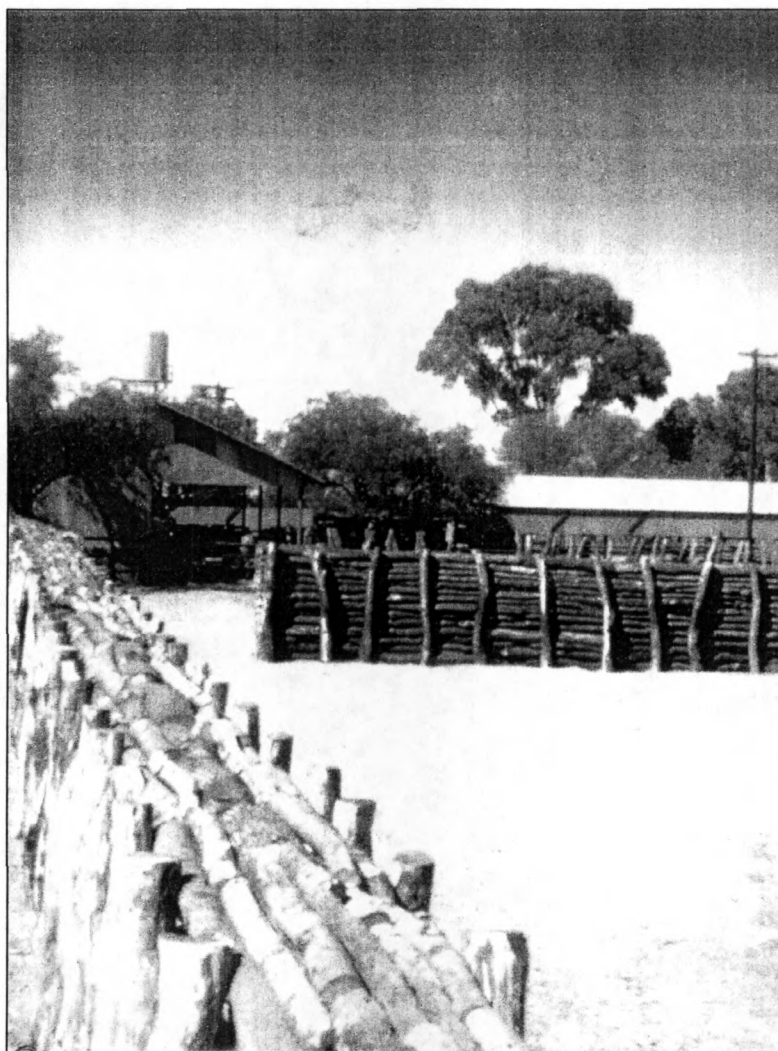


Figure 50. Corrals at Canoa Ranch Headquarters; date and photographer unknown. From the personal collection of Louise Manning-Catron, Tucson.

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Figure 51. Invitation to Levi Manning's seventieth birthday, depicting entrance to Canoa Ranch Headquarters; artist and printer unknown. From the personal collection of Louise Manning-Catron, Tucson.