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Historic Preservation

ARCHITECTURE,
ETHNICITY AND HISTORIC
LANDSCAPES OF
CALIFORNIA'S
SAN JOAQUIN VALLEY

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BUILDING IN ADOBE AND HARDPAN

There is a respectable history in the San Joaquin Valley of constructing buildings with earth... whether molded into adobe bricks, pushed into forms or cut as whole blocks from the "hardpan." Earth has also been further tempered to create stabilized adobe bricks as well as pumitile, hollow masonry units made of cement and pumice pebbles dug from the San Joaquin River. Of interest is that adobe and pumitile constructions cross ethnic and class lines, from the most humble hand-built cottages of Highway City and Pinedale to the 2½ story Kearney Mansion, the California ranch residences of Fresno's Old Fig and the garden offices along Shaw Avenue. Folk builders and architects such as Cliff May, Charles Franklin and Ernest Kump Jr. and Robert Stevens have all used some form of earth construction to develop a regional aesthetic.



BUILDING IN ADOBE IN THE SAN JOAQUIN VALLEY

Karana Hattersley-Drayton

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Scattered throughout the San Joaquin Valley, often hidden under a wrap of stucco, are residential and non-residential buildings constructed of adobe brick, occasionally rammed earth or even hardpan. “Adobe” is a Spanish word derived from the Arabic “atob,” or “sun-dried brick,” and traditionally is usually a mix of sand, sometimes gravel, clay, water, and often straw or grass, mixed together by hand. It can be formed in wooden molds and dried in the sun for bricks, rammed into wooden forms for the pise technique, or “puddled”—layered without use of a form—as

Adobe Technology in New Spain

Adobe technology was transported from Spain to Mexico and then to New Spain (California) with the Franciscans, who constructed 21 missions between the years 1769 and 1819 along the California coast from San Diego to Sonoma.

The California missions, although Spanish in origin with clear references to Roman, Moorish (Mudejar) and Baroque architectural traditions, were yet a unique response to the political and economic conditions, geography, and climate of

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“Early Type of Architecture in Fresno. On the Plains. A Mexican Family.”

Photo: M. Theo Kearney Collection, Fresno Historical Society Archives

was the tradition among Native Americans in the Southwest. Historically, most adobe walls were composed of bricks laid with mud mortar. Surface coatings for exterior and interior walls include mud plaster, lime plaster, whitewash, and stucco.¹ Close to one-third of the world’s buildings are constructed of “earth,” and although usually modest, adobe can also be adapted for more elaborate buildings such as the mosques of North Africa and the early Mormon buildings in Salt Lake City.²

the California frontier. The architecture is noteworthy for its frank simplicity, good proportions, and picturesque composition. The “foam and froth of degrading decoration” is absent.³

The distinguishing features that cohere into a “California Mission style,” include:

1) Solid massive walls with pier buttresses, due not only to the low load bearing characteristics of adobe and poor-quality stone but also to a Franciscan aesthetic for heavy austere structures.⁴ The adobe walls are invariably covered with stucco



or lime plaster. Less important walls are white-washed.

2) Arcaded corridors with arches upon piers, rather than columns, which reflect the lack of skilled labor. Mission San Miguel's colonnade is noteworthy, as every arch is a different size.

3) A few missions, such as San Diego de Alcalá, have curved pedimented gables, a feature

7) All structures exhibit broad undecorated wall surfaces.

8) Wide projecting eaves and low-pitched red tile roofs, which are a direct development from the domestic and religious architecture of Spain. Roof tiles (*tejas*) were first manufactured at Mission San Antonio around 1780 and replaced thatch roofs (a fire hazard during Indian raids) after 1790.



San Luis Camp Adobe, 1848
Photo: Karana Hattersley-Drayton

unique to California. These *espadanas* are similar to the stepped gable fronts of houses in Flanders and Holland and serve largely to add impressive height.⁵ As such they are not unlike the false front buildings of the American West.

4) The terraced bell towers, often with lanterns, are also a "peculiar" adoption of the California Mission style.

5) Pierced campanarios were built at a few of the California missions.

6) Most complexes had patios with gardens or fountains, either realized or at least imagined.

To this list can be added elements of plan: thus the long narrow naves, the complex of buildings around a quadrangle (La Purissima is the exception here) and the painted interiors.

Also of interest to students of vernacular architecture are the *cajones* and palisade (*palisado*) structures, which were built as temporary shelters. Palisade buildings, in which wooden posts are set together in the ground and plastered inside and out with clay have been documented in early Spanish Florida and in French Missouri.⁶

The domestic architecture of the *Californios* included modest one-storey houses of sun-dried



adobe bricks of one or two rooms. Homes built in the Los Angeles area in particular had flat roofs covered in asphalt or adobe. Domestic buildings also used pitched and shed roofs of thatch, grasses, or wood shakes. Mexican tiles were employed on houses as early as 1824. In plan, homes were a single-file arrangement of rooms, what the cultural geographer J. B. Jackson described as "additive building." The largest residences circulated around an enclosed quad and included porches, colonnades, and arcades.

"Monterey Style" residences were constructed during the Mexican period in California in the 1830s. These two-storey adobe structures had cantilevered balconies and porches, and wood frame sash and casement windows, often with double French doors. The fenestration on the principal elevation was normally symmetrical. The architectural and social influences have been debated, but scholars now generally agree that the style represents a melding of Anglo-American and Hispanic sources that are also related to building types developed in the Caribbean, the American Southwest, American Southeast, and Latin America.⁷

In addition to adobe brick constructions, rammed earth structures were also built in California by early Spanish settlers and Chinese

immigrants. The Chinese store in "Fiddletown," off of State Route 49, is a notable example.

Adobe Construction in the San Joaquin Valley

No missions were constructed in the San Joaquin Valley, but there were a few Mexican land grants, including the 11 square leagues of the Rancho Sanjón de Santa Rita (1841) and the Rancho San Luis Gonzaga (1843) near what is now the town of Los Banos in Merced County. On the western edge of the Santa Rita was the San Luis Camp, which included an adobe built by Francisco Peres Pacheco and son in 1848. Prior to the U.S. government survey of 1861, the structure was located at the eastern edge of the San Luis Gonzaga, and served as a headquarters for the rancho and stopover for vaqueros during round-ups.⁸ This adobe, the oldest extant building in Merced County, was later used by Henry Miller after he and business partner Charles Lux acquired the rancho lands. Miller subsequently added a wooden addition to the adobe and built barns and a superintendent's house at this site.

At the southern end of the valley, the 97,616-acre Rancho El Tejon in today's Kern County was the largest in the San Joaquin Valley. General Edward Beale, Superintendent of Indian Affairs, established a government Indian reservation on the



Fort Tejon Barracks

Photo: Karana Hattersley-Drayton



rancho in the early 1850s and erected stone and adobe buildings as headquarters for the agency.⁹

Fort Tejon, established in 1854 to house the 1st U.S. Dragoons and a detachment of the 3rd U.S. Artillery (acting as infantry), was constructed at the foot of Tejon Pass in the Tehachapi Mountains. The fort included over 40 buildings and outbuildings including several of adobe brick, which were incorporated into the Tejon Ranch in 1866 and subsequently used as a cow and sheep camp. Two original buildings are extant at the site, now a California State Park. Barracks #1, constructed in 1854-1855, is a one-and-a-half-storey, four-room structure with walls of handmade adobe brick of local clay and straw. Archaeologists have discovered small fragments of glass mixed into the adobe as temper, sometimes as a substitute for straw or other binding. The interior walls were finished with lath and plaster, although due to economy the exterior walls were left "in the buff." The barracks has a gabled roof clad now with sugar pine shingles (made during the 1948 reconstruction), which replaced the original imported redwood shingles. Timbers forming the floor and roof construction were joined together in morticed and tenoned joints, dove-tailed or dapped together with square wooden pegs.¹⁰ The shingle-roofed adobes at Fort Tejon were a major influence on the later development of architect-designed buildings in the Central San Joaquin Valley.

Other early surviving adobes in the San Joaquin Valley include El Adobe de los Robles,

near Lemoore. It is a long, low adobe with casement windows constructed in 1856 by Daniel Rhodes, who came to California in 1846. The home is a State of California Landmark.¹¹

Fresno-area Adobe and Hardpan Construction

Early Sanborn Fire

Insurance maps as well as a few surviving buildings indicate the widespread use of adobe construction in the Fresno area. The City of Fresno was established in 1872 by the Central Pacific Railroad in the middle of an almost treeless plain. The nearest reliable source of water was ten miles away.¹²

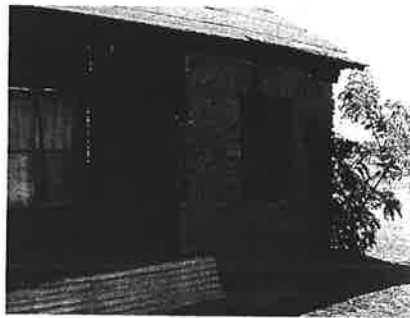
Although lumber mills were built early on, adobe brick and possibly rammed earth construction were adopted for both residential and commercial use, including many of the area's early wineries. The 1882 *History of Fresno County* described the buildings at the Fresno Vineyard Company in detail:

The buildings on this place consist of a commodious and well finished dwelling-house . . . 40 x 46 feet, and two stories high. This house is built of "adobe" (sun-dried brick) with walls seventeen inches thick. It is admirably adapted to this climate, being warm in winter and very cool in summer. A kitchen and dining-room 24 x 38 feet, and built of wood is

connected with the dwelling by a covered porch. Ample quarters have been furnished for the white laborers and a separate building for the Chinamen employed on the place. A wind mill and tank of 5,000 gallons capacity is near the house, also an "adobe" cellar is built above ground where meats, butter, milk, etc. can be kept fresh in hottest weather. The barn is a substantial structure 50 x



Brewer Adobe, Highway City (Fresno)
Photo: Karana Hattersley-Drayton



Hardpan Construction, Brewer Adobe
Photo: Karana Hattersley-Drayton



Traditional Adobe Brick, Brewer Adobe
Photo: Karana Hattersley-Drayton



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80 feet and 18 feet high, with stalls for sixteen horses, large hay room, and abundant room for all the farming implements. A substantial "adobe" wine cellar has just been finished which is 104 x 104 feet, with capacity for nearly 200,000 gallons of wine. There are also a distillery for making brandy and a cooper shop.

documented surviving adobe in the Fresno area. Unfortunately it has been encased in stucco, an ill-advised preservation practice.

A surprising use of adobe brick is the two-and-a-half-storey superintendent's lodge constructed in 1903 for M. Theo Kearney at his Fruit Vale Estate, seven miles west of Fresno.



"Kearney Mansion" 1903
 Photo: Fresno Historical Society Archives

Of interest is that the vineyard was only two years old at the time of this investment. The editors concluded that "the property is undoubtedly a striking example of what the rich soil and extremely favorable climate of Fresno County will do in the way of grape growing when aided by capital and intelligent labor." The winery's success was also attributed to its manager, M. Theo Kearney.¹³ Unfortunately the stately adobe mansion described in this passage fell into disrepair and was demolished in the 1970s.

The barn at another early Fresno-area winery, the Roessler Winery (1893), is the oldest

Kearney was the president of the first California Raisin Growers Association from 1898-1904.¹⁴ He hired the French-American architect Maurice Hebert to design a mansion patterned after the Chateau de Chenonceaux in France, but died before the building was constructed, and the plans were later abandoned. The superintendent's lodge, (now known as "Kearney Mansion") was also built in a French aesthetic with mansard roof and a Chinoiserie-style porch that wraps three sides of the façade. The earlier Servants' Quarters is wood framed over a foundation of either stone or adobe bricks and so it is of interest that the superintendent's lodge was constructed of adobe



bricks made on the ranch,¹⁵ although set on a stone foundation. Kearney, however, was familiar with adobe construction from wineries in the area, including the Fresno Vineyard Company he built in 1880.¹⁶

Another form of earth construction using hardpan developed in the Fresno area in the early 20th century. Hardpan is a soil horizon that can range from a few inches to several feet in thickness and that has become cemented into a “solid almost petrified mass” by a bonding material such as free silica, alumina, or iron oxides.¹⁷ The individual who most successfully exploited this material locally was Baldassare Forestiere, a Sicilian immigrant who came to the Fresno area in 1904 following a brief sojourn on the East Coast. From 1906 to 1946 Forestiere created an underground seven-acre complex of 65 caverns, grottos, patios, and garden courts that encircled his subterranean home. The sections were inter-connected with underground passageways and promenades; later he added an 800-foot-long auto tunnel. To support the great mass of earth and to give permanence to his earthen sculptings, Forestiere used Roman arches, columns, and domes, hardly the work of an amateur builder. As architect Malcolm Wells has noted: “Thirteen years of training and the best we [architects] can produce are metal and glass boxes standing in parking lots! Forestiere demolishes us with a wheelbarrow and a dream.”¹⁸ Hardpan, mortar, and cement were used not only for structural purposes, but also for textural variety and beautification. The Forestiere Underground Gardens are on the National Register of Historic Places, are listed as a California Landmark and are on Fresno’s Local Register of Historic Resources as well.

Forestiere apparently influenced the work of other vernacular builders in the “Hardpan City” area, later renamed “Highway City.” This multi-ethnic community west of State Route 99 (and a half mile away from the gardens) included a mix of worker’s cottages of adobe brick,

wood frame, stucco, and hardpan, with recycled materials for foundations and windows. One building of particular interest is the Brewer Adobe, a cross-gable residence constructed between 1923 and 1937. The property includes two adobe brick rooms and a third constructed of hardpan blocks with frame additions. The adobe has been tempered with pebbles, straw, and rough chunks of hardpan, and laid up as stretchers in a common bond. The hardpan blocks are not in uniform courses, although larger pieces are set horizontally. Recycled common red bricks have been used to form vertical edges on the three window openings in this room. All of the windows were clearly recycled and of various sizes and styles, including sash and casement. Hardpan was not used in the Fresno area with the frequency of adobe brick, but it was employed for walls and trolley stops in the Fig Garden area.¹⁹

1930s and 1940s

During the Depression and World War II, adobe construction was widely adopted throughout the San Joaquin Valley due to several factors, including economic hardship, a shortage of building materials, and a consciously-developed aesthetic by architects who looked to both early California as well as the buildings of Mexico and Spain for inspiration. Vernacular builders continued to construct homes using materials at



Stucco-wrapped Adobe, Pinedale
Photo: Karana Hattersley-Drayton



hand, including adobe and hardpan. Traditional building techniques were also rediscovered, as for example in the former mill town of Pinedale (now within the City of Fresno). Both before and immediately following World War II, Mexican-born residents constructed numerous residences out of homemade adobe bricks. As former Pinedale resident Frank Garcia recalls, resources like wood were scarce after the war and so his father, born in Michoacán, Mexico, taught several families how to build a traditional adobe. Although initially a mud lime wash was used for the exteriors, all homes are now stucco-wrapped and thus indistinct from other wood frame cottages in the area.²⁰

During this period, public agencies such as the California Agricultural Experiment Station at the University of California, Berkeley, also provided research and how-to plans for adobe construction. Public works projects, such as the County Library in Chowchilla, an earlier 1928 Farm Bureau Office in Visalia and a hospital in Dos Palos, were erected of adobe brick, often with community participation. Japanese-Americans relocated during the war to camps in Arizona constructed adobe buildings using techniques they had learned in the Fresno area.

Anglo-Americans initially held California's Hispanic past at a psychological and emotional distance. They often described mission ruins from the mid-19th century in accurate but unflattering terms.²¹ By a curious turn, however, these "old rusty piles" became the focus of a romanticized vision of both mission and Indian life in the late 19th century, a process initially nurtured by the publication of Helen Hunt Jackson's *Ramona* in 1884. California's love-affair with its idyllic past led ultimately to the Spanish Colonial Revival, a movement of great aesthetic power and interest but one, according to David Gebhard, "that had little, if any real roots in the historic past of the area." Gebhard argues that "few artificially created architectural myths have succeeded in retaining a firm hold for so long and at the same time have been able to maintain a consistently high quality of design."²² Nevertheless, San Joaquin Valley architects in the 1920s-1940s began to explore and reconsider California's "indigenous architecture," in hopes of developing a

new vernacular, a new California Colonial style.

One of the most influential architects in this tradition was Clarence Cullimore, who was born in 1885 in Jacksonville, Illinois. Perhaps it is only coincidental that a near neighbor of the Cullimore family was Helen Hunt Jackson. Cullimore became intrigued with the West in general and the "romance of California" in particular. He graduated from the University of California, Berkeley, in 1910 with a B.S. in Architecture and went on to the University of Southern California, where he received a Masters in Architecture with a thesis on California adobes. Sketching trips to Europe included Spain. Cullimore constructed his first adobe residence in Bakersfield in 1926 and another for the family in 1930. He designed adobe houses and ranch outbuildings up and down the Central Valley, as far north as Redding and Red Bluff, with at least two homes in Fresno—the O. W. Hunsaker Home in Fresno's Old Fig Garden neighborhood and the W. Roy Peterson Residence (c1936) near Roosevelt High School.²³ His trademark was the use of Chinese blue tiles for vents.²⁴

Cullimore developed a highly-regarded technical drawing curriculum at Kern County Union High School in Bakersfield. For one classroom project, Cullimore's students produced meticulously-executed drawings of the adobe ruins of Old Fort Tejon. One of his star pupils was Ernest J. Kump Jr. After high school Kump went to Berkeley where he received his undergraduate degree in 1932 and eventually completed a M.A. from Harvard. His Harvard thesis was supervised by Walter Gropius, the German Bauhaus modernist. Kump worked briefly for his father, also an architect, but as a "passionate modernist" broke with his father's more classicist perspective. Kump worked for Charles Franklin as a draughtsman (Franklin had earlier designed the Art Deco-style Kearney Boulevard Gateway) and they formed a partnership in 1937, with offices in Fresno and Bakersfield. Franklin and Kump's Fresno City Hall (now Annex) (1941) was selected by the Museum of Modern Art in New York as one of the most significant American structures built between 1932 and 1944.²⁵



Ironically, while Franklin and Kump were pushing Fresno’s architecture into modernism, they were also looking back to a romanticized early California by designing adobe homes for clients in the Fig Garden area. The Jertberg family, for

ponds at the site of the borrow pits. The bricks were sun dried and the crews later returned to begin construction. Adobe was a “great insulator” and cool in summer.²⁷



Evacuation of Claude Simms Family, Herndon Canal Flood, 1938
Photo: The Fresno Bee Collection, Fresno Historical Society Archives

example, had asked Kump to design a home in a traditional Early California style.²⁶ Kump, pulling upon his earlier training with Clarence Cullimore, designed a courtyard plan home constructed of adobe bricks made on site by Mexican laborers. The roof of the home, as with the buildings at Fort Tejon, was clad in shingles. The Gilbert Jertberg Adobe was completed in 1936.

Numerous adobe homes were constructed, particularly in the Fig Garden area, for professors, artists, and leading professionals of the community. The Patterson Adobe (c1937) in Old Fig Garden was built for the Vice President of San Joaquin Light and Power Company using traditional homemade adobe bricks of various sizes. In plan the one-storey home was a non-symmetrical U (popular in other homes as well) with a shingle roof and terra cotta friezes and plaques. As one local resident recalls, adobe building was “real popular” at the time. Mexican crews went throughout the neighborhood making adobe bricks dug on site—several homes still have

During the Depression property owners also turned to adobe as a low-cost construction material for “do-it-yourself” projects. John Edward Powell and Éphraim K. Smith documented three “home-built” adobes constructed in the late 1930s in the projected corridor for State Route 168 in northeast Fresno. Powell noted the influence of the media, from *Popular Science Monthly* to *Sunset*, which promoted low-cost adobe housing.²⁸

Hans Sumpf: Stabilized Adobe Brick and Modernism

In early March 1938, the Herndon Canal flooded, inundating blocks of homes in the Old Fig Garden neighborhood. As a consequence, traditional adobe brick structures such as the Jertberg Home literally melted. Fortuitously, a young Coalinga-born inventor and entrepreneur, Hans Sumpf, had recently perfected stabilized adobe bricks. As he noted in a later interview, “The flood spelled the doom for the unstabilized brick makers.”²⁹



Sumpf was born in Coalinga in 1914 and attended Stanford University for three years. In the summer of 1935 or 1936 he returned to work in the Kettleman Hills oil fields. He set about to make a better adobe brick, and with \$350 built a mud-making machine. Working with the Standard Oil Company, Sumpf then applied an asphalt emulsion to the bricks, which both strengthened and waterproofed them. With the exception of a government operation in Stockton, Sumpf was California's first commercial manufacturer of stabilized adobe brick. He moved to the Carmel Valley in the 1930s and supplied his stabilized bricks for Bay Area constructions. When Fresno was hit by the floods in 1938, Sumpf returned to Fresno and set up a plant, first at Sierra and

Maroa Avenues, and also at Chestnut and Teague Avenues.³⁰ By 1970 Hans Sumpf had moved to 80 acres in Madera County, and annually produced millions of bricks. He was recognized as a world authority on stabilized waterproof adobe and consulted on numerous projects in the Middle East.³¹ The company only recently closed, leaving a legacy of adobe homes, walls, mail boxes, and garden office buildings in the Fresno area that contribute to a regional vernacular and aesthetic.

Local homeowners used Sumpf's stabilized adobe bricks to rebuild their damaged residences. In the case of the Jertberg Adobe, the owner had Sumpf make special stabilized bricks that included straw, to give it the look of authentic adobe. She also brushed the exterior to give the façade a weathered antique look, since she wanted the home "to look old."³²

New homes and commercial buildings were also constructed completely out of the new stabilized adobe product. Next door to the Jertberg home in Old Fig is the Hilliard Giffen Adobe (1940) also designed by Franklin and Kump in a California ranch style with Arts and Crafts elements.³³ The home includes beaded wood partitions, casement windows with lintels, a lanai, and a garden designed by Thomas Church, the preeminent 20th-century residential landscape architect in the United States and a master of the "informal" garden style.³⁴

Architect Robert Stevens used stabilized adobe brick in several Fresno buildings that he designed. Stevens was a graduate in architecture from the University of Southern California and a confirmed modernist with influences from Schindler, Johnson, and Neutra.³⁵ In 1949 he founded Robert W. Stevens and Associates and in about 1970 merged with a young architect Gene Zellmer. Stevens had several major commissions in the Fresno area, including the Fresno Convention



5151 North Palm, Fresno
Photo: Karana Hattersley-Drayton



Center, the Hilton Hotel, and Bulldog Stadium. He is credited with pioneering the “garden office” style of architecture; 80 percent of the buildings along one stretch of Fresno’s Shaw Avenue were designed by Stevens and Zellmer.³⁶ Stevens, and later Stevens and Zellmer, used stabilized adobe brick in many of these office complexes, including a second garden office at 567 W. Shaw Avenue. This building features Stevens’ signature Richardsonian arch—what local architects referred to as a “mouse hole.” Stevens’ favorite complex, according to his son Bill, was 5151 N. Palm Avenue, with massive stabilized adobe brick walls, many of them canted with pier buttresses, all designed around a garden breezeway.³⁷

Throughout the 1940s, 1950s, and 1960s home builders and architects alike constructed dozens of commercial and residential buildings using stabilized adobe in the Fresno area. Los Angeles architect Cliff May used adobe in at least one Fresno commission. John Edward Powell identified 57 extant adobes in 1994 in the Fresno area, including both traditional and stabilized adobe brick.³⁸ This number is probably conservative, although building by building research and documentation are needed.

The history of earthen construction in the San Joaquin Valley is a multi-faceted one that bridges indigenous building techniques and the offices of professional architects. What was the impetus for its use from early California through the 1960s? Certainly an economic factor played a part as adobe (dirt) is readily available, cheap and environmentally sound. Adobes are generally cool in summer and (in theory) retain their heat in winter. At Fort Tejon, the Army selected adobe as being the cheapest way to construct the fort, as the only saw mill was on Frazier Mountain.³⁹ The Depression and World War II also reinforced the expediency of using a readily-available building material. But in the 1930s trained architects such as Clarence Cullimore, Charles Franklin, Ernest Kump Jr., and Cliff May also adopted adobe construction for clients wishing to have a home in the “California style.” These ranch homes incorporated the aesthetics of a presumed and romanticized early California, often at the expense of the insulating characteristics of adobe, as with

the use of expansive glazing on the west wall of the Giffen adobe.

And what was the inspiration for adobe building in the San Joaquin Valley? Does it spring from a particular ethnic tradition or perhaps from several different sources? Certainly a major inspiration came from the vernacular building traditions of Spain and Mexico. The Spanish explorer Gabriel Moraga made several expeditions into the San Joaquin Valley in the early 19th century. In 1852 a huge pile of adobe bricks was discovered near Laton on the Kings River, possibly intended for a mission building. In the 19th century there were several small agricultural communities of Spanish and Mexican families, including Posa de Chine, La Libertad, Pueblo de las Juntas (the first Fresno) on the west bank of the San Joaquin River at its junction with Fresno, and Rancho de los Californios. Pueblo de las Juntas included houses of brush and mud-brick, thatched with tule.⁴⁰ Fort Tejon’s adobe buildings were constructed by civilian Hispanic workers from neighboring Rancho Castaic, local Indians trained at the missions, and some Anglos.⁴¹ In 1935 Hans Sumpf was inspired to make a better adobe brick only after stopping to watch Mexican workers in a slosh pit, mixing adobe with their feet for use in buildings in Avenal and Coalinga.⁴² Workers hired by Franklin and Kump were Mexican, and a Mexican crew went around the Fig Garden area on consignment to local builders.

But in addition, in the San Joaquin Valley there is a hardscrabble multi-ethnic tradition of using adobe brick, hardpan and possibly pise (rammed earth) that was inspired by thrift and environmental determinism. This vernacular tradition, as represented in several Highway City buildings, flourished during the Depression. These buildings are particularly vulnerable due to their fragility and relative impermanence.

I wish to acknowledge the generosity of several local historians, architects and property owners: Steve Weil, Bill Patnaude, William Secrest, Robert Boro, John Edward Powell, Steve Ptomey, and David Rodriguez. They of course are not responsible for any errors in this essay. The adobe story in the San Joaquin Valley has yet to be told in full.



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- 2 Both the 2.5 storey Gothic Revival Lion House (1856) and the 1854 Beehive House in Salt Lake City are constructed of adobe. Initially Brigham Young, founder of Salt Lake City, wanted the Mormon Temple to also be of adobe, but the architect Truman Angell (Young's brother-in-law) persuaded Young to use quartzite instead. See Mark Angus, *Salt Lake City Under Foot* (Salt Lake City: Signature Books, 1996), 6, 14.
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- 4 Newcomb, 104.
- 5 Kurt Baer, *Architecture of the California Missions* (Berkeley: University of California Press, 1958), 44.
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- 15 Rehart and Patterson, 24.
- 16 Karen Hildebrand and C. Kristina Roper, "Hardpan and Adobe Brick: A National Register Evaluation of Two Highway City Adobe Buildings, Fresno, California" (California State Department of Transportation, 1997), 69. For a fuller biography on Kearney Park and Chateau Fresno Avenue see essays in this volume by Julie Cain and Marlea Graham.
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- 18 Silvio Manno, *The Forestiere Underground Gardens: A Pictorial Journey* (Fresno, Calif.: Ionian Publications, 2005), 2.
- 19 Hildebrand and Roper.
- 20 Frank Garcia, interview by Karana Hattersley-Drayton, 24 February 2007.
- 21 See Sally Woodbridge's introduction to Stanley Young, *The Missions of California* (San Francisco: Chronicle Books, 1988).
- 22 David Gebhard, "The Spanish Colonial Revival in Southern California (1895-1930)," *Journal of the Society of Architectural Historians* 26 (1967): 131.
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