



United States Department of the Interior

NATIONAL PARK SERVICE
1849 C Street, N.W.
Washington, DC 20240

BOARD OF SUPERVISORS

2012 MAR 23 A 10:13

H34(2280)

The Honorable Dick Monteith
Chairman, Stanislaus County Board of Supervisors
1010 10th Street, Suite 6500
Modesto, California 95354

MAR 12 2012

Dear Chairman Monteith:

The National Park Service has completed the study of the Knight's Ferry Bridge in Stanislaus County, California, for the purpose of nominating it for designation as a National Historic Landmark. We enclose a copy of the nomination.

The Landmarks Committee of the National Park System Advisory Board will consider the nomination during its next meeting, at the time and place indicated on one of the enclosures. This enclosure also specifies how you may comment on the proposed nomination if you so choose. The Landmarks Committee will report on this nomination to the Advisory Board, which in turn will make a recommendation concerning this nomination to the Secretary of the Interior, based upon the criteria of the National Historic Landmarks Program.

If you wish to comment on the nomination, please do so within 60 days of the date of this letter. After the 60-day period, we will submit the nomination and all comments we have received to the Landmarks Committee.

To assist you in considering this matter, we have enclosed a copy of the regulations governing the National Historic Landmarks Program. They describe the criteria for designation (§65.4) and include other information on the Program. We are also enclosing a fact sheet that outlines the effects of designation.

Sincerely,

J. Paul Loether, Chief
National Register of Historic Places
and National Historic Landmarks Program

Enclosures

PROPERTY STUDIED FOR
NATIONAL HISTORIC LANDMARK DESIGNATION

KNIGHT'S FERRY BRIDGE
STANISLAUS COUNTY, CALIFORNIA

The Landmarks Committee of the National Park System Advisory Board will evaluate this property at a meeting to be held on May 15-16, 2012, beginning at 10 a.m. on May 15, and continuing at 9 a.m. on May 16, in the Richard L. Hurlbut Memorial Hall, 3rd Floor, Charles Sumner School Museum and Archives, 1201 17th Street NW, Washington, DC. The Landmarks Committee evaluates the studies of historic properties being nominated for National Historic Landmark designation in order to advise the full National Park System Advisory Board. At a subsequent meeting the National Park System Advisory Board will consider those properties that the Committee finds meet the criteria of the National Historic Landmarks Program.

Owners of private properties nominated for NHL designation have an opportunity to concur with or object to designation, in accordance with the National Historic Preservation Act and 36 CFR 65. Any owner or partial owner of private property who chooses to object to designation must submit a notarized statement certifying that the party is the sole or partial owner of the private property and objects to the designation. Each owner or partial owner of private property has one vote, regardless of the portion of the property that the party owns. If a majority of private property owners object, a property will not be designated. Letters objecting to or supporting nominations may be sent to Mr. J. Paul Loether, Chief, National Register of Historic Places and National Historic Landmarks Program, at the National Park Service, 1849 C Street N.W. (2280), Washington, DC, 20240.

Should you wish to obtain information about these meetings, or about the National Historic Landmarks Program, please contact Historian Patty Henry at the National Park Service, at the address given above; by telephone at (202) 354-2216; or by e-mail at <patty_henry@nps.gov>.

NATIONAL HISTORIC LANDMARK NOMINATION

NPS Form 10-900

USDI/NPS NRHP Registration Form (Rev. 8-86)

OMB No. 1024-0018

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1. NAME OF PROPERTY

Historic Name: Knight's Ferry Bridge

Other Name/Site Number:

2. LOCATION

Street & Number: Spanning Stanislaus River at bypassed section of Sonora Road,
approximately .75 mile north of SR 108/120

Not for publication: ___

City/Town: Knight's Ferry

Vicinity: ___

State: California

County: Stanislaus

Code: 099

Zip Code: 95361

3. CLASSIFICATION

Ownership of Property

Private: ___
Public-Local: ___
Public-State: ___
Public-Federal: X
Object: ___

Category of Property

Building(s): ___
District: ___
Site: ___
Structure: X

Number of Resources within Property

Contributing

1

Noncontributing

___ buildings
___ sites
___ structures
___ objects
___ Total

Number of Contributing Resources Previously Listed in the National Register: 1

Name of Related Multiple Property Listing: "Covered Bridges NHL Context Study"

4. STATE/FEDERAL AGENCY CERTIFICATION

As the designated authority under the National Historic Preservation Act of 1966, 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.

Signature of Certifying Official

Date

State or Federal Agency and Bureau

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of Commenting or Other Official

Date

State or Federal Agency and Bureau

5. NATIONAL PARK SERVICE CERTIFICATION

I hereby certify that this property is:

- Entered in the National Register
- Determined eligible for the National Register
- Determined not eligible for the National Register
- Removed from the National Register
- Other (explain): _____

Signature of Keeper

Date of Action

6. FUNCTION OR USE

Historic: Transportation

Sub: road-related (vehicular)

Current: Transportation

Sub: road-related (pedestrian)

7. DESCRIPTION

ARCHITECTURAL CLASSIFICATION: Other: Howe through truss

MATERIALS:

Foundation: stone

Walls: wood

Roof: metal

Other:

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Describe Present and Historic Physical Appearance.**Summary**

Knight's Ferry Bridge is an exceptionally fine example of nineteenth-century covered bridge construction, and an outstanding example of a timber Howe truss, one of the most significant American timber truss types, of which approximately 110 historic (pre-1955) examples survive. It is nationally significant under NHL Criterion 4, as a property that embodies the distinguishing characteristics of an architectural type specimen exceptionally valuable for a study of a period, style, or method of construction and NHL Theme VI, Expanding Science and Technology, under the area of Technological Applications. Patented by William Howe (1803-1852) in 1840, the Howe truss was a ground-breaking design that used adjustable wrought iron rods to overcome the inherent difficulty of creating tension connections in wood structures and allow for easier and more efficient pre-stressing of the members. The bridge has been well-maintained and retains an uncommonly high degree of historic integrity. Knight's Ferry Bridge was recorded by the Historic American Buildings Survey (HABS) in 1934 and by the Historic American Engineering Record (HAER) in 2002. It is a contributing structure to the Knight's Ferry Historic District, which was listed in the National Register of Historic Places in 1975. Of the approximately 690 historic (pre-1955) covered bridges surviving in the United States, Knight's Ferry Bridge is the longest extant covered bridge west of the Mississippi River and stands out as a very fine example of covered bridge construction and preservation.¹

General Setting

The Knight's Ferry Bridge spans the Stanislaus River in a picturesque natural and historical setting at the interface of the rolling Sierra Nevada foothills and the fertile farmlands of California's Central Valley. It is an arid landscape of rolling hills and prairie, sparsely covered with groves of oak trees and sagebrush. The Stanislaus River, one of ten rivers that drain the Sierra Nevada, travels 96 miles in a westerly direction from the foothills north of Sonora to the confluence of the San Joaquin River near Ripon. At Knight's Ferry, the river exits the confines of a narrow canyon and begins a slower, meandering course through the valley. This proved to be an ideal site for a ferry—and later, a bridge—as the topography here allowed travelers to be safely conveyed across the river. This crossing was essential to the Sonora Road, one of the principal overland routes used by miners traveling between the Central Valley and the southern mines during the California gold rush. The volume of traffic generated by miners traveling the Sonora Road enabled Knight's Ferry to quickly develop into a thriving industrial village, which also served as the seat of Stanislaus County from 1862 to 1871.

Description

Knight's Ferry Bridge is an impressive and well-maintained four-span timber Howe through truss covered bridge on mortared stone abutments and piers. It spans the Stanislaus River and a former millrace at a bypassed section of Sonora Road about a half mile southeast of the historic village of Knight's Ferry. The bridge is 378' 11 3/4" long overall, with clear span lengths (from north to south) of 43'-10", 96'-5 3/8", 80'-8 1/2", and 135'-10 5/8". The superstructure (including housing) is approximately 23 feet deep and 25 feet wide overall. The trusses are approximately 18 feet deep and the roadway is 15 feet wide. Each truss panel is approximately 9'-5" wide, except the panels at the piers and abutments which are approximately 4' wide. The housing extends 16' 8" beyond the trusses at the southerly end.

¹ Approximately half of the 690 extant historic (pre-1955) covered bridges in the United States have been significantly altered, with much loss of historic fabric and character.

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The top chords are four 3"x14" planks laid on the flat and bolted together. The bottom chords are five 3"x14" planks laid on the flat and bolted together. This type of laminated chord is not typical of Howe truss covered bridges, but was occasionally found in California covered bridge construction, and rarely elsewhere.² The top and bottom chords are connected by paired tension rods that vary in dimensions from 7/8" to 1 1/4" paired 4"x 8" wood braces and single 5"x9" wood counterbraces. The end panels of each span have single 5"x8" braces. Connections at each panel point incorporate triangular cast iron bearing block assemblies, with seats for the diagonal timbers and openings for the iron rods to pass through. Each pair of rods passes through the bearing blocks and the chords; they are fastened on the far side with a plate and nuts. There are 1 1/8" diagonal tension rods parallel to the counterbraces in the end panels of the trusses. Whether these rods are original or a later modification is not known, but the fact that they are consistent throughout the structure suggests that they may be original.³

Transverse timber floor beams are suspended from iron rods at each panel point. Lower lateral bracing consists of metal tie rods crossing between the floor beams. There are 11 lines of 3"x12" stringers laid longitudinally on top of the floor beams. The stringers carry 2"x4" transverse joists spaced at 1'-6". The decking is 3"x8" plank flooring laid longitudinally on the joists. The deck is surfaced with bituminous paving.

The upper lateral system is composed of 7"x9" transverse tie beams seated on the top chord at each panel point and 4"x8" braces crossing diagonally between the tie beams. There are wood sway braces at the ends of each truss between the end posts and tie beams. Wood rafters frame onto longitudinal timbers supported on the outer ends of the tie beams at the eaves. The gable roof with extended eaves was originally covered with wood shingles; the shingles were replaced with standing-seam metal roofing in 1885. That roof was replaced during the 1988-1991 restoration.

The exterior of the bridge is covered with 2"x12" unpainted, vertical board sheathing to about 18" below the top chord. The sheathing is fastened to three 2"x4" wood nailers on the exterior faces of the trusses. The portals are painted red with white trim. They are plumb with arched openings flanked by engaged pilasters. The gables are ornamented with reverse curve eaves and a small modillion centered above the portal opening. There are four openings with wire screens and wood shutters on each side of the bridge. The approaches to the bridge are covered with worn bituminous pavement and flanked by whitewashed board fences.

The abutments and piers are mortared rubble stone on natural rock ledge foundations. The piers are wedge-shaped on the upstream side, designed to divide the current and deflect floes of ice or debris heading downstream. The bottom chords of each span rest on bedding timbers at the abutments and bolster beams at the piers. 12"x14" timber posts support the bolster beams at the southern pier; these were added sometime between 1934 and 1972.⁴

² The usual form of Howe truss had chords consisting of three or four timbers set on their edges, spaced apart with shear blocks and bolted together. The type of laminated chord found at Knight's Ferry Bridge was also used for Bridgeport Bridge (1862) in Nevada County, the former O'Byrnes (Byrnes) Ferry Bridge (1862-1957) between Calaveras and Tuolumne counties, and Glen Canyon Bridge (1892) in Santa Cruz County. According to historian Joseph Conwill, the popularity of plank chords in California covered bridges may have been due to a scarcity of labor to hew the chord sticks and the use of rural sawmills, which were ill-equipped to handle the larger timbers that are more typically seen in bridge chords. [Joseph D. Conwill, "Why Those Plank Chords in California Covered Bridges?" *Covered Bridge Topics*, Vol. 69, No. 1 (Winter 2011), 12.]

³ The diagonal tension rods were in place when historian Joseph d. Cornwill visited Knight's Ferry in 1978.

⁴ Measurements were taken in 2011 by the HAER field team, using the Leica ScanStation 2 laser scanner.

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Integrity

The structure clearly illustrates the character-defining features of the resource type. It has undergone few significant alterations or modifications during its lifetime, and retains an uncommonly high level of integrity, in location, setting, design, materials, workmanship, feeling and association.

Knight's Ferry Bridge is one of the best surviving examples of a timber Howe through truss, one of the most successful and widely-used 19th-century bridge truss designs. It exhibits the distinctive features of this truss type: diagonal wood compression members, vertical iron tension rods grouped at each panel point, and cast iron angle blocks at the joints. All the essential load-bearing components of the structure are still intact. The bridge is uniquely suited to its site. In particular, the length of each span was dictated by the site's topography, with the longest span over the river, and shorter spans over a rock ledge and a former millrace. The height of the bridge above the water was determined after an 1862 flood that washed out the previous structure. The bridge has been minimally altered since construction. The original wood shingle roof was replaced with metal in 1885, and the deck was rebuilt in 1918. Sometime between 1934 and 1972, timber posts were added to support the bolster beams at the southern pier. The bridge was restored in 1988-1991 by renowned covered bridge specialist Milton S. Graton, who used traditional materials and construction techniques to repair the trusses and piers, remove non-historic elements, and restore the exterior of the bridge to its 19th-century appearance.

Knight's Ferry Bridge was built on-site using local materials and traditional 19th-century construction methods. Locally-quarried stone was used for the piers and locally-milled lumber was used in the trusses. The latter may have been the reason for the unusual plank chords, a feature sometimes found in California covered bridges.⁵ In keeping with the Howe truss design, the primary structural members are wood compression members and iron tension rods. The wrought iron rods and cast iron angle blocks reflect a mid-19th century trend toward replacing traditional joinery with prefabricated parts. These elements were presumably fabricated in a factory and shipped to the site, a procedure that was later used for metal truss bridges of all types. The masonry piers and abutments were clearly built by a skilled craftsman. They are carefully tapered to maximize support without impeding the flow of the river, with cutwaters on the upstream side. All of the siding, roof covering and flooring have been replaced over the years, most recently during the 1988-1991 restoration, but this is part of routine maintenance, and—as long as materials are replaced in-kind—does not diminish the integrity of the structure. The fact that this structure has retained its historic appearance over time is a testament to the high level of care and maintenance it has received.

Knight's Ferry Bridge retains the feeling of a 19th-century covered bridge built for pedestrians and horse-drawn wagons. Although it was bypassed in 1981, the bridge remains at its original site and is maintained as a pedestrian bridge, historic landmark and tourist attraction. The bridge's picturesque "Old West" setting possesses a high level of aesthetic and historic integrity. Numerous remnants of the gold rush era survive near the structure, in particular the 19th-century ruins of the Stanislaus Flour Mill (Tulloch Mill) that stand just northwest of the bridge, and a water-diversion ditch (San Joaquin Ditch) near the top of the hill north of the bridge.⁶ The bridge is a contributing structure to the Knight's Ferry Historic District, which was listed in the National Register of Historic Places in 1975.

⁵ See fn. 3.

⁶ Knight's Ferry once had extensive water-diversion ditches and flumes for placer mining, mill power, and domestic use.

8. STATEMENT OF SIGNIFICANCE

Certifying official has considered the significance of this property in relation to other properties:

Nationally: X Statewide: Locally:

Applicable National Register Criteria: A X B C X D

Criteria Considerations (Exceptions): A B C D E F G

NHL Criteria: 4

NHL Theme(s): V. Developing the American Economy
 3. Transportation and Communications
 VI. Expanding Science and Technology
 2. Technological Applications

Areas of Significance: Transportation
 Engineering

Period(s) of Significance: 1863

Significant Dates: 1863

Significant Person(s): N/A

Cultural Affiliation: N/A

Architect/Builder: Divoll & Bray, Designers⁷
 Schuylkill Construction Company, Contractor⁸; Thomas Vinson, Stonemason⁹

Historic Contexts: "Covered Bridges NHL Context Study"
 XVIII. Technology (Engineering and Innovation)
 B. Transportation

⁷ Donna M. Stanio, "Knight's Ferry Covered Bridge," *Covered Bridge Topics* (Summer 1988), 9. "Divoll & Bray" may be a reference to James Divoll (1831-1904) and Joseph Bray (b.1834), who owned the Bonanza Gold Mine at Sonora and would have had a vested interest in the Sonora Road and the bridge at Knight's Ferry, <http://sonoraca.com/visitsonoraca/ashortstory.htm>, retrieved 5/25/2011.

⁸ S. Griswold Morley, *The Covered Bridges of California* (Berkeley: University of California Press, 1938), 70. No additional information has been found concerning the Schuylkill Construction Company.

⁹ George Henry Tinkham, *History of Stanislaus County, California* (Los Angeles: Historic Record Company, 1921), 74.

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State Significance of Property, and Justify Criteria, Criteria Considerations, and Areas and Periods of Significance Noted Above.**Summary**

Knight's Ferry Bridge is nationally significant under NHL Criterion 4, as a property that embodies the distinguishing characteristics of an architectural type specimen exceptionally valuable for a study of a period, style, or method of construction and NHL Theme VI, Expanding Science and Technology, under the area of Technological Applications. Constructed in 1862-1863, it is an exceptionally fine example of 19th-century covered bridge construction, and an outstanding example of a timber Howe truss, one of the most significant American timber truss types, of which approximately 110 historic (pre-1955) examples survive. Patented by William Howe (1803-1852) in 1840, the Howe truss was a ground-breaking design that used adjustable wrought iron rods to overcome the inherent difficulty of creating tension connections in wood structures and allow for easier and more efficient pre-stressing of the members. The bridge has been well-maintained and retains an uncommonly high degree of historic integrity. Knight's Ferry Bridge was recorded by the Historic American Buildings Survey (HABS) in 1934 and by the Historic American Engineering Record (HAER) in 2002. It is a contributing structure to the Knight's Ferry Historic District, which was listed in the National Register of Historic Places in 1975.

A full discussion of the national significance of Knight's Ferry Bridge is provided in the associated document, "Covered Bridges NHL Context Study." The study establishes the history and evolution of the property type, and provides a preliminary assessment of the National Historic Landmark (NHL) eligibility of 20 covered bridges that are considered by experts in the field to be the best representative examples of the surviving 690 historic (pre-1955) covered timber bridges in the United States. These properties were selected from the National Covered Bridges Recording Project (NCBRP), undertaken in 2002-2005 by the Historic American Engineering Record (HAER), which is administered by the Heritage Documentation Programs Division of the National Park Service, United States Department of the Interior. The project was funded by the Federal Highway Administration's (FHWA) National Historic Covered Bridge Preservation Program (NHCBPP), established in 2000 by Section 1224 of the Transportation Equity Act for the 21st Century (TEA21). Over the course of a multi-year project, HAER recorded 75 covered bridges throughout the United States. In 2010, each of these bridges was individually evaluated against National Historic Landmark criteria and a list compiled of 20 covered bridges that have high integrity and are significant as outstanding representative examples of their type, period, and method of construction. Secondary considerations for inclusion in this list were: historical significance, significance of the designer or builder, and aesthetics of the bridge and site.

Covered Bridges in the United States

Covered bridges are pre-eminently an American phenomenon. Nowhere else in the world were such impressive timber structures attempted, and nowhere else were they built in such vast numbers.¹⁰ Over the course of two centuries, covered bridges have played a significant role in American life, by facilitating settlement, transportation and commerce. They also represent a period of remarkable achievement in civil engineering, during which bridge building evolved from an empirical craft to a science. At the height of covered bridge building, around 1870, there were well over 10,000 covered bridges in the United States.¹¹

¹⁰ According to the 7th edition of the *World Guide to Covered Bridges* (2009), there are approximately 1,500 extant historic (pre-1955) covered bridges in the world. More than half of these structures are located in North America. American scholars have recently become aware of large numbers of ancient covered bridges in China, but most were built for pedestrian traffic, and their construction techniques and reason for covering differ from the Western tradition.

¹¹ This is only a rough estimate of known covered bridges that existed c.1870. Initial data compiled by the "Covered Spans of Yesteryear Project," <http://www.lostbridges.org>, suggests that this figure may be too low.

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Timber bridges have been built in forested regions of the world for centuries.¹² Wood is an excellent material for building; it is strong, relatively lightweight, and easy to work with. Since most species of wood suitable for structural applications deteriorate rapidly when exposed to the weather, European bridge builders quickly learned the value of covering wood bridges with roofs and siding to protect the underlying framework.¹³

Bridges were rare in Colonial America. Small streams were spanned with simple wood beams or stone slabs, and occasionally with stone arches, but with few exceptions, larger waterways had to be crossed by ford or ferry. Travel was hazardous and uncertain; delays and accidents were common. A few ambitious crossings were made with pontoons or a series of simple beam spans supported on timber piles, but long-span bridges were generally not built in America until the volume of transportation justified the expenditure of material and labor.¹⁴ Following the American Revolutionary War, the demand for roads and bridges, coupled with access to abundant forests, spurred the development of timber bridge design in the United States.

Internal improvements were a priority of the new nation. Roads, canals and bridges were desperately needed to expand commerce and unite the country. The Louisiana Purchase of 1803 doubled the land area of the United States and over the next half-century, settlement expanded west to the Pacific Ocean. Timber bridges were an ideal solution to America's many transportation hurdles and settlers built hundreds of them as they moved westward across the continent. They provided for safe, efficient and economical overland transportation that was essential to the new nation's growth.

In 1804-05, Timothy Palmer (1751-1821) built America's first covered bridge across the Schuylkill River at Philadelphia. By 1810, covered bridges were common in southern New England, southeastern New York, Pennsylvania and New Jersey. From this core area, covered bridges spread northward, southward and westward. In the 1820s, town and county governments began to specify covered bridges for construction on local roads. By 1830, covered bridges were commonplace at major river crossings in the eastern United States. The builders of timber bridges utilized readily available materials and common hand tools. Making use of patented truss designs, carpenters with basic woodworking ability could erect an average-sized covered bridge in a short time, usually within a few weeks.

Covered bridges were adapted to the needs of every type of transportation corridor, including turnpikes, canals and railroads and they facilitated the settlement of the United States for over a century. The rapid growth of the railroads in the mid-1800s—in particular, the increasing weight of locomotives and rolling stock—encouraged innovations and technical advancements in the design of timber truss bridges and was an important factor in the rise of civil engineering as a profession. All the major technological improvements in American truss bridge design occurred when wood was the building material of choice.

By 1850, there were covered bridges in most settled regions of the United States.¹⁵ Thereafter, the number of covered bridges continued to multiply until about 1870, by which time there were well over 10,000 covered

¹² In 55 BC, Julius Caesar (100 BC-44 BC) built the earliest known timber bridge across the Rhine River.

¹³ Several European covered bridges have survived for more than three centuries, while a few in the United States are nearing the two-century mark.

¹⁴ The Great Bridge (1660) across the Charles River at Boston and the York River Bridge (1761) at York, Maine, were notable exceptions. The Great Bridge consisted of "*cribs of logs filled with stone and sunk in the river—hewn timber being laid across it.*" The York River Bridge was a timber pile bridge, which uses tree trunks or piles driven vertically into the river bed to provide a foundation for a series of simple beam spans.

¹⁵ Fred Kniffen, "The American Covered Bridge," *The Geographic Review*, Vol. 41 (1951), 119.

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bridges in the United States.¹⁶ The golden era of covered bridge building lasted for about a century in most areas of United States, and even longer in areas where timber was plentiful.¹⁷

History of Knight's Ferry Bridge

Knight's Ferry Bridge was erected during the mid-19th century, a period when covered bridges were being built in extensive numbers throughout the United States, particularly in newly-settled areas west of the Mississippi River. Within a year of the discovery of gold at Coloma, California in 1848, the territory's population tripled, and there was an urgent demand for goods, services, and infrastructure improvements. Early infrastructure improvements like roads and bridges were financed by private capital, so they were generally not built until the volume of transportation justified the expenditure of material and labor.¹⁸ In 1850, only a few rustic timber trestle structures or floating log bridges existed in California. One stage coach passenger reported that he and the other passengers were required to disembark and walk across each bridge they encountered, adding that the structures were so flimsy, "*they trembled and swayed as the empty coach was being drawn over.*"¹⁹ In the summer of 1850, John T. Little (1820-1891) of Castine, Maine built California's first covered bridge across the South Fork American River at Salmon Falls (near present-day Folsom).²⁰ This successful enterprise inspired the construction of dozens of other toll bridges in the region, many of which were covered bridges.²¹

In 1848, shortly after veins of gold were discovered in the southern Sierra Nevada, Indiana native Capt. William Knight (d.1849) and his partner Capt. James Vantine (b.1827) established a trading post and ferry near this site on the Stanislaus River.²² This crossing was located halfway between present-day Stockton and the Sonora mining area, and was considered an ideal spot for teams to rest before heading into the Sierra foothills. Within a short time, the crossing was known as Knight's Ferry.²³ After Captain Knight was killed in a gun fight in November 1849, Captain Vantine partnered with Lewis (1824-1874) and John Dent (b.1831) in operating the ferry. An advertisement published in the *Stockton Times* in 1850 described Knight's Ferry as follows:

The boat is one of the best in the country, well railed in, and is in every way well adapted to the purposes of a ferry. The roads leading to and from this ferry are excellent during both the winter and summer months. There is always a good supply of water and wood through the whole route. At the Ferry House a restaurant and boarding house, has just been opened, where the traveler will always find the best accommodation, and the most attentive consideration to his wants. -Dent, Vantine & Co.²⁴

¹⁶ Covered bridges once existed in 41 of the 50 states. No records have been found concerning covered bridges in Colorado, Florida, Idaho, Louisiana, New Mexico, North Dakota, Oklahoma, South Dakota and Utah. The reasons for this presumably vary from region to region, but probably include: absence of readily-available timber, absence of major river crossings, topography more suited to other types of bridges, late-period settlements and low population density.

¹⁷ Covered bridge building ended in New England and the Midwest around 1925, and in the South around 1935. Covered bridges continued to be built in Oregon into the 1950s.

¹⁸ By the 1870s, state and local governments throughout the country had largely taken over the building and maintenance of public bridges, and toll bridges were rare by the end of the century.

¹⁹ Robert O'Brien, "Bridges of the Pioneers," *San Francisco Chronicle*, 30 October 1950.

²⁰ Kramer Adams, *Covered Bridges of the West: A History and Illustrated Guide* (Berkeley: Howell-North, 1963), 13.

²¹ *Ibid.*, 22.

²² Captain Knight served as a guide for John C. Fremont's (1813-1890) expedition that camped near this site in 1844.

²³ This crossing, labeled "Knights," appears on William A. Jackson's 1851 "Map of the Mining District of California."

²⁴ Advertisement published in the *Stockton Times*, 1850; republished in *Stanislaus Stepping Stones*, Vol. 2, No. 2 (April 1978),

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Knight's Ferry quickly became a major river crossing, with as many as one hundred wagons crossing daily.²⁵ According to David Tulloch's history of the community, "*one could follow the trail from Stockton to Sonora at night and the entire road would be illuminated by the campfires of the travelers.*"²⁶ As early as 1850, there was discussion of building a bridge at, or near, the ferry crossing, but it did not happen for several years.

In 1849, New England machinist David M. Locke (b.1825) was passing through Knight's Ferry and noticed an ideal location for a mill just upstream from the ferry crossing. Locke returned to Knight's Ferry in 1853 to construct a dam, a sawmill and a grist mill. In 1855, gold was discovered along the banks of the Stanislaus River, and the Dent brothers platted the town of Knight's Ferry (originally, "Dentsville") on the hillside just north of the river. Within a year, the thriving industrial village was home to 800 inhabitants, leading a local newspaper correspondent to write:

*During the last year a large town or village has sprung into existence here, and improvements still increase. There is one thing, however, which has retarded the growth somewhat—the high price of lots. ...Another reason is, we have only a ferry boat, whereas we want a bridge. The traveling community demanded the latter, and for want of it, much of the travel which has formerly passed through here now goes to Six Mile Bar. This can be prevented. All we want is a few enterprising men with capital to come in here and in less than one year we can boast of as large and enterprising a city as Columbia or Sonora. Our facilities are greater, we have the never-failing Stanislaus taking its course through our village, and as there are miles of good pay dirt with the rich placers at Keeler's Ferry, why should not we boast of our future prospect.*²⁷

On November 1, 1856, David Locke purchased the Dents' ferry franchises at Knight's Ferry and Keeler's Ferry, along with timber "*for the bridge intended to be built*" at Knight's Ferry, for \$26,000.²⁸ Soon thereafter, work began on a bridge adjacent to Locke's Mills, about a half-mile above the original river crossing at Knight's Ferry. That bridge, originally known as "Locke's Bridge," was a non-housed timber truss structure, with timber trestle approaches.²⁹ It was completed by January 7, 1857, when Stanislaus County issued David Locke a toll bridge license.³⁰ One month later, a new road connecting this crossing with the Sonora Road was declared a public highway.³¹

In the spring of 1858, a group of local ferrymen and bridge owners, led by David Locke, organized the Stanislaus Bridge & Ferry Company to operate toll bridges at Two Mile Bar and Knight's Ferry, along with the ferry boat at Keeler's Ferry, thereby creating a local monopoly of Stanislaus river crossings for a distance of about four miles.³² On July 26, 1858, David Locke sold the Knight's Ferry Bridge and Keeler's Ferry to the Stanislaus Bridge & Ferry Company for \$27,000, but maintained a controlling interest in the company.³³

²⁵ John F. Criswell, *Knight's Ferry's Golden Past* (Knight's Ferry, California: John F. Criswell, 1972), 11.

²⁶ David W. Tulloch, "Tulloch Grandson Tells Town History," *The Oakdale Leader*, May 25, 1939.

²⁷ *San Francisco Bulletin*, 7 May 1856.

²⁸ I. N. "Jack" Brotherton, "A Brief History of Knight's Ferry and Buena Vista," unpublished manuscript, May 1977, 9.

²⁹ Some modern sources suggest that the first bridge at this site was designed by the Dent's brother-in-law, Gen. Ulysses S. Grant (1822-1885). Grant visited Knight's Ferry several times in the early 1850s, but there is no written evidence that he designed the bridge.

³⁰ Even though Knight's Ferry was still located in San Joaquin County at this date, the river formed the northern boundary of Stanislaus County, and Stanislaus County had authority to issue licenses for ferries and bridges on the river.

³¹ Stanislaus County Board of Supervisors, *Records*, Book 1, 157.

³² The Stanislaus Bridge & Ferry Company was formed by: G.J. Slocum, William H. Qualls and Thomas E. Bell of Two Mile Bar; D.M. Locke of Knight's Ferry; A.N. Bell of Angel's Camp; and J.F. Grover of San Pablo Creek. [Brotherton, "A Brief History of Knight's Ferry and Buena Vista, 10.]

³³ Stanislaus County, *Deeds*, Book 1, 324.

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In December 1861, a period of heavy snowfall followed by a period of warm rain in the Sierra Nevada resulted in massive flooding throughout the San Joaquin Valley. On January 11, 1862, the Stanislaus River rose three to four feet per hour, until it peaked at 35 feet above low water level. The town of Knight's Ferry was nearly destroyed and the bridge at Two Mile Bar was swept down the river, where it took out the Knight's Ferry Bridge. Damages were estimated at \$115,300, with the biggest losses incurred by the Stanislaus Flour Mill (\$30,000) and the Stanislaus Bridge & Ferry Company (\$20,000).³⁴

Within a month, the Stanislaus Bridge & Ferry Company obtained permission from the California State Legislature to rebuild the bridges at Two Mile Bar and Knight's Ferry.³⁵ During construction, the ferry boats were pressed back into service. Construction began on the Knight's Ferry Bridge in March 1862 and the new bridge was opened to traffic on May 30, 1863. The new Knight's Ferry Bridge was more substantially built than its predecessor, and was placed eight feet higher above the river, to protect it from flood waters.

For the next few years, the bridge was a profitable enterprise, but traffic gradually lessened as mining in the area declined. As time went on, there was increasing public outcry for a toll-free crossing. On August 5, 1872, citizens of Knight's Ferry petitioned the county for the establishment of a public ford, as a means of avoiding the toll bridge, but the petition was dismissed.³⁶ Two years later, the Stanislaus County Board of Supervisors appointed a commission to investigate the possible purchase of the Knight's Ferry Bridge. The commission assessed the value of the bridge at \$14,000, but the bridge company refused to sell.³⁷ Another decade would elapse before the county revisited the issue. On June 10, 1884, another commission was appointed to look into the matter. They appraised the bridge at \$7,000, and over the next several months, an agreement was reached with the Stanislaus Bridge & Ferry Company. On November 12, 1884, Stanislaus County formally purchased the Knight's Ferry Bridge for \$7,000.³⁸ After 36 years, Knight's Ferry had a free river crossing.

Knight's Ferry's heyday lasted two decades. As the gold rush drew to a close, the railroad bypassed the community in 1871, and the county seat moved from Knight's Ferry to Modesto. Individuals and businesses moved to Oakdale, Modesto, San Francisco, and other growing urban centers, and the once-thriving village shifted its focus to supplying goods and services to surrounding farms and ranches. In 1890, Charles Tulloch (dates unknown) moved the operations of the Stanislaus Flour Mill from Knight's Ferry to Oakdale. The former mill was converted for use as a hydro-electric power plant, which provided power for Knight's Ferry and surrounding communities until 1927. In the mid-twentieth century, the hamlet of Knight's Ferry experienced a revival as an artist's colony and tourist attraction.

Knight's Ferry Bridge continued to carry traffic as a county bridge, but by the mid-20th century, heavier and faster vehicles were beginning to take a toll on the aging span. In 1955, *Mother Lode Magazine* reported: "[The bridge] is still in a good state of repair and is in constant use by area residents and sightseeing tourists."³⁹ Within two decades, the county found it necessary to install traffic signals at each end of the bridge. In 1981, county engineers discovered cracked timbers in the bridge deck and decided to close the structure.⁴⁰ Traffic was redirected over a temporary bridge until a new concrete and steel bridge was completed about a quarter mile upstream in 1987. On April 18, 1985, Stanislaus County transferred ownership of the covered bridge to the U.S. Army Corps of Engineers, Sacramento District. Today, the bridge serves as a pedestrian

³⁴ *A Memorial and Biographical History of the Counties of Merced, Stanislaus, Calaveras, Tuolumne and Mariposa, California* (Chicago: Lewis Publishing Company, 1892), 135.

³⁵ *Statutes of the State of California*, Chapter 26, 1862 (Sacramento, 1863.)

³⁶ Stanislaus County Board of Supervisors, *Records*, Book 3, 295.

³⁷ *Ibid.*, Book 3, 634.

³⁸ *Ibid.*, Book 6, 102-103.

³⁹ "Knight's Ferry's Big Bridge," *Mother Lode Magazine*, September 1955.

⁴⁰ Sandy Wood, "Knight's Ferry Covered Bridge," *Covered Bridge Topics*, Vol. 41, No. 3 (Summer 1983), 5.

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bridge and focal point for the Knight's Ferry Recreation Area, one of several parcels of land along the river developed in the 1970s and 80s as part of the New Melones Dam flood-control project.⁴¹

The bridge was restored in 1988-1991 by renowned covered bridge specialist Milton S. Graton (1908-1994), at a cost of \$492,000. Over the course of a career that spanned four decades, Milton Graton and his sons built seven new covered bridges, and repaired many more, like Knight's Ferry Bridge, using traditional materials and framing techniques. The restoration of Knight's Ferry Bridge involved repairs to both the superstructure and substructure, along with replacement of the roof, siding, and deck.⁴² In addition, previous alterations, including pedestrian walkways (1918) and chain-link fences (1970) were removed.⁴³ Today, the bridge is well-maintained as a local landmark and tourist attraction.

Development of Timber Truss Bridges in America: The Howe Truss

The first half of the 19th century saw a great technological advancement in the design and construction of timber bridges in America. Between 1790 and 1840, timber bridge forms evolved from rudimentary pile-and-beam spans to scientifically designed, long-span trusses capable of carrying railroad loadings. The demand for roads and bridges, which grew rapidly after the American Revolutionary War, coupled with access to abundant forests, spurred the development of timber bridge design.⁴⁴ These advancements were evolutionary in nature, each responding to a particular aspect of the challenge confronting bridge builders: to create economical and efficient structures that could span long distances, that were easy to erect and maintain, and that were strong enough to carry heavy moving loads. Broadly speaking, the major advancements made in American timber bridge building can be credited to the truss designs patented by five individuals: Timothy Palmer (1751-1821), Theodore Burr (1771-1822), Ithiel Town (1784-1844), Col. Stephen H. Long (1784-1864), and William Howe (1803-1852).

Creating spans greater than the length of a single log or beam was one of the initial challenges facing timber bridge builders and this required construction of a frame structure known as a truss. The truss, which utilizes the stable geometry of the triangle to carry a load, has been used for centuries for centering masonry arches and for roof construction. A truss is an assemblage of members joined together to form a series of interconnected triangles that carry loads by alternately pushing and pulling the individual members; it is the most efficient way to build long spans of wood.⁴⁵

The Knight's Ferry Bridge employed one of the most popular designs, the Howe Truss. The Howe truss was a highly successful patented design that was the culmination of nearly a half-century of timber bridge evolution in America. In the 1830s, demand increased for standardized bridges that could be rapidly erected to keep pace with the growth of the nation's railroad network. In 1840, Massachusetts millwright William Howe (1803-1852) patented a timber truss with parallel chords connected by diagonal wood compression members and vertical iron tension members.⁴⁶ The Howe truss improved on the 1830 Long truss by using adjustable wrought

⁴¹ Located 12 miles upstream, the New Melones Dam replaced an earlier dam constructed by the U.S. Bureau of Reclamation in 1926.

⁴² Limited documentation has been found concerning the restoration as Milton Graton typically worked without plans or specifications. He also typically used traditional construction techniques and in-kind materials to replace historic components, so any repairs are not immediately obvious. This is reflected in the fact that no repairs are noted in the 2011 HAER drawings.

⁴³ Joseph D. Conwill, "Knight's Ferry Revisited." *Covered Bridge Topics*, Vol. 50 No. 4 (Fall 1992), 3-4.

⁴⁴ Between 1791 and 1860, more than 50 bridge patents were granted, but only a few bridge designs gained widespread acceptance.

⁴⁵ Only six extant covered bridges are not truss bridges: three tied arch bridges in Vermont and three polygonal arch bridges in Virginia.

⁴⁶ William Howe, United States Letters Patent No. 1,711, 3 August 1840. Howe received another patent in 1846 and a reissue in 1850, but the design of most Howe truss bridges was simpler than that shown in the patent drawings.

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iron rods to overcome the inherent difficulty of creating tension connections in wood structures and allow for easier and more efficient pre-stressing of the members. Railroads favored the Howe truss design because it had standardized framing connections and could be quickly erected and easily adjusted. The American Society of Civil Engineers termed the Howe truss, "*the most perfect wooden bridge ever built; others have been designed of greater theoretical economy; but for simplicity of construction, rapidity of erection, and general utility it stands without rival.*"⁴⁷ Used extensively for railroad bridges during the mid-19th century, the wood-iron Howe truss was gradually superseded by iron and later steel structures, but the type remained one of the most important timber truss types throughout the 19th century, and it saw a revival in Oregon after World War I, when steel shortages, coupled with readily available timber, led to a new era of covered bridge building. Hundreds, perhaps thousands, of timber Howe truss covered bridges once existed in the United States; about 110 historic (pre-1955) examples survive (primarily in the Midwest and Pacific Northwest), with dates ranging from 1854 to 1954. Knight's Ferry Bridge is an outstanding example of this truss type, but also reflects regional variations. As was occasionally found in covered bridges in the west, the chords consist of a series of planks stacked on the flat and laminated, rather than several planks set on edge and bolted together. Also, the floor beams are suspended from the lower chords rather than seated on top of the chords.

Conclusion

Knight's Ferry Bridge is an outstanding example of a timber Howe truss, one of the most successful and widely-used American timber truss types. Patented by William Howe (1803-1852) in 1840, the Howe truss was a ground-breaking design that used adjustable wrought iron rods to overcome the inherent difficulty of creating tension connections in wood structures and allow for easier and more efficient pre-stressing of the members. It is one of the most visually impressive and structurally intact of approximately 110 historic (pre-1955) Howe truss covered bridges surviving in the United States.

Although gold mining ceased long ago, and the bridge was bypassed in 1981, Knight's Ferry Bridge and its picturesque setting possess a high level of aesthetic and historic integrity that conveys a sense of the 19th-century Old West.⁴⁸ The original transportation corridor is still used by pedestrians and equestrians, and the bridge is maintained as an historic landmark and tourist attraction. The bridge is a contributing structure to the Knight's Ferry Historic District, which was listed in the National Register of Historic Places in 1975.

⁴⁷ "Bridge Superstructure," *Transactions of the American Society of Civil Engineers*, 1878, 340.

⁴⁸ Located two miles south of Knight's Ferry, Willms Ranch (1852) was a location used for filming *Bonanza* and *Little House on the Prairie* in the 1970s, which is indicative of the area's picturesque landscape.

Chronology

- 1805 America's first covered bridge completed at Philadelphia
- 1806 Spanish army officer Lt. Gabriel Moraga (1765-1832) discovers the Stanislaus River
- 1840 William Howe (1803-1852) patents the Howe truss
- 1844 John C. Fremont's (1813-1890) expedition camps near this site on the Stanislaus River
- 1848 James W. Marshall (1810-1885) discovers gold at Sutter's Mill near Coloma, California
- 1849 California gold rush begins
Capt. William Knight (d.1849) and Capt. James Vantine (b.1827) establish a ferry near this site
Capt. William Knight killed in a gun fight at Knight's Ferry
Captain Vantine partners with Lewis Dent (1824-1874) and John Dent (b.1831) in ferry franchise
- 1850 John T. Little (1820-1891) builds California's first covered bridge at Salmon Falls
California enters the Union
- 1852 Captain Vantine sells his interests at Knight's Ferry to Lewis and John Dent
California gold country covers an estimated 20,000 square miles
- 1853 David M. Locke (b.1825) erects a sawmill and grist mill near this site
- 1854 David Locke's mills begin operation
Stanislaus County formed from part of Tuloumne County
- 1855 Placer gold mining operations commence at Knight's Ferry
John Dent plats the village of Knight's Ferry
- 1856 David Locke purchases the Dent's ferry franchise for \$26,000, including timber for a proposed bridge
Knight's Ferry population 800
- 1857 David Locke receives license to operate a toll bridge at Knight's Ferry
David Locke sells flour mill to Hestries & Magendie of Stockton
- 1858 Stanislaus River bridge and ferry owners organize the Stanislaus Bridge & Ferry Company
David Locke sells bridges at Knight's Ferry and Two Mile Bar to Stanislaus Bridge & Ferry Company
- 1859 David W. Tulloch (d.1886) invests in Stanislaus Flour Mill with Hestries & Magendie
- 1861 Knight's Ferry annexed to Stanislaus County
David Locke's sawmill ceases operation
- 1862 January flood destroys much of Knight's Ferry, including flour mill and Knight's Ferry Bridge
Construction begins on present Knight's Ferry Bridge
Stanislaus County seat moves from LaGrange to Knight's Ferry
- 1863 Knight's Ferry Bridge opened to traffic May 30

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- David Tulloch rebuilds flour mill at Knight's Ferry
- 1866 Lawrence & Houseworth of San Francisco publish photographs of Knight's Ferry
- 1869 Thomas Roberts (b.1823) purchases a controlling interest in the Knight's Ferry Bridge
- 1871 Stockton-Visalia Railroad bypasses Knight's Ferry; Oakdale founded
Stanislaus County seat moves from Knight's Ferry to Modesto
- 1875 Knight's Ferry Bridge appraised at \$14,000
- 1880 Knight's Ferry population 200
- 1884 Stanislaus County buys Knight's Ferry Bridge for \$7,000 and makes it a free bridge
David Tulloch turns operation of flour mill over to his son, Charles Tulloch
- 1885 Knight's Ferry Bridge wood shingle roof replaced with metal
- 1890 Charles Tulloch moves flour mill operations from Knight's Ferry to Oakdale
- 1895 Charles Tulloch converts Stanislaus Flour Mill at Knight's Ferry to hydro-electric power plant
- 1918 Knight's Ferry Bridge deck rebuilt
- 1927 Knight's Ferry hydro-electric power plant ceases operation
- 1931 Knight's Ferry Bridge pictured in Rosalie Wells' (b.1876) book, *Covered Bridges in America*
- 1934 Knight's Ferry Bridge recorded by the Historic American Buildings Survey (HABS)
- 1956 Stanislaus Flour Mill (Tulloch Mill) burns
- 1975 Knight's Ferry Historic District listed in the National Register of Historic Places
- 1981 Knight's Ferry Bridge bypassed and closed to traffic; temporary bridge erected nearby
- 1982 Stanislaus Flour Mill (Tulloch Mill) ruins stabilized
- 1985 Knight's Ferry Bridge transferred from Stanislaus County to U.S. Army Corps of Engineers
- 1987 New Stanislaus River Bridge completed at Knight's Ferry
- 1988 U.S. Army Corps of Engineers facilities completed at Knight's Ferry
Milton S. Graton (1908-1994) begins restoration of Knight's Ferry Bridge
- 1991 Restoration of Knight's Ferry Bridge completed
- 2002 Knight's Ferry Bridge recorded as part of HAER's National Covered Bridges Recording Project
- 2011 Knight's Ferry Bridge proposed for consideration as a National Historic Landmark

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Previous documentation on file (NPS):

- Preliminary Determination of Individual Listing (36 CFR 67) has been requested.
- Previously Listed in the National Register: Knight's Ferry Historic District [NRIS #CA-75000490, 1975]
- Previously Determined Eligible by the National Register.
- Designated a National Historic Landmark.
- Recorded by Historic American Buildings Survey: HABS No. CA-158
- Recorded by Historic American Engineering Record: HAER No. CA-314

Primary Location of Additional Data:

- State Historic Preservation Office
- Other State Agency
- Federal Agency: U.S. Army Corps of Engineers Sacramento District, Knight's Ferry Visitor's Center
- Local Government: Stanislaus County Courthouse, Modesto, California
- University
- Other (Specify Repository): McHenry Museum & Historical Society, Modesto, California

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10. GEOGRAPHICAL DATA

Acreege of Property: Less than an acre

UTM References: **Zone Easting Northing**

10 705750 4188160

Verbal Boundary Description:

The property consists of the superstructure, housing, substructure and approaches of the Knight's Ferry Bridge spanning the Stanislaus River at Knight's Ferry, California. Overall, the superstructure is approximately 379 feet long, 22 feet deep (from the peak of the roof to the bottom of the floor beams) and 25 feet wide (including the overhanging eaves). The piers and abutments vary in height from approximately 16 feet to approximately 29 feet above the level of the river. A short, curved approach at the bridge's northern end and a long, straight approach at the southern end are flanked by whitewashed board fences along the roadway. The structure sits on a NW-SE axis approximately a half mile southeast of the historic village of Knight's Ferry.

Boundary Justification:

The property boundary includes the essential components of the bridge: the superstructure, including the trusses, floor system, and bracing systems; the housing, including the siding and roof; the substructure, including abutments, piers and foundations; and the roadway approaches to the structure.

11. FORM PREPARED BY

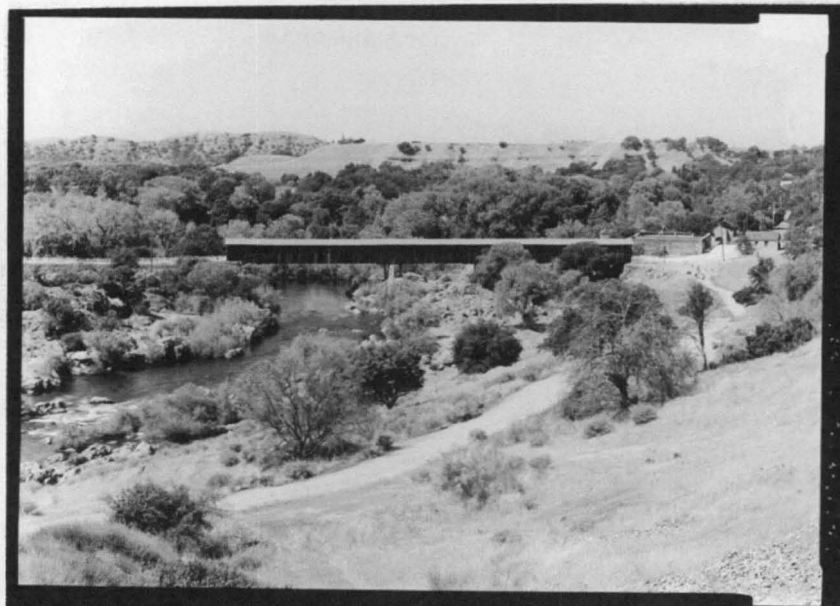
Name/Title: Lola Bennett, Historian
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Date: July 26, 2011

Edited by: Roger G. Reed
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NATIONAL HISTORIC LANDMARKS PROGRAM
March 1, 2012



KNIGHT'S FERRY BRIDGE. General view to west.
Photograph by Jet Lowe, 2004
[HAER No. CA-314-17]



KNIGHT'S FERRY BRIDGE. Oblique perspective from southeast portal.
Photograph by Jet Lowe, 2004
[HAER No. CA-314-3]



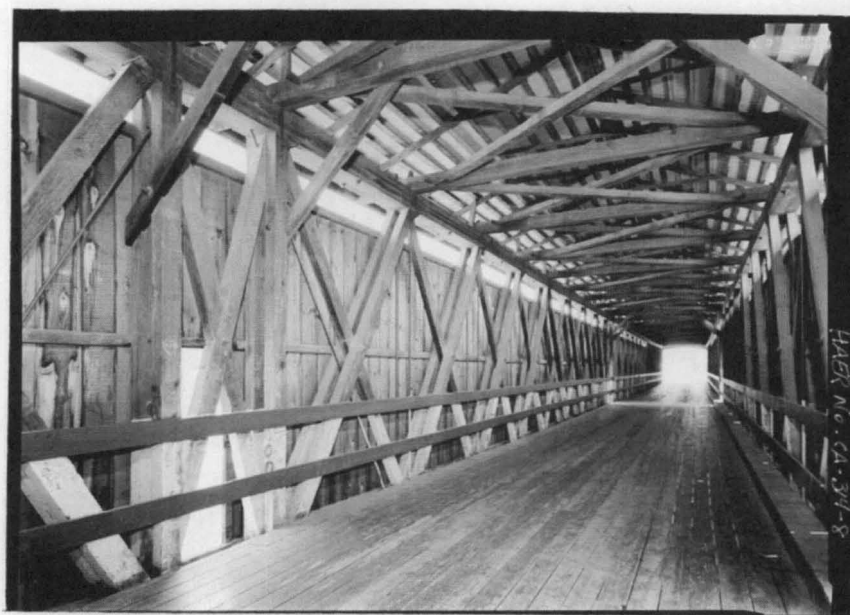
KNIGHT'S FERRY BRIDGE. Southeast portal elevation.
Photograph by Jet Lowe, 2004
[HAER No. CA-314-2]



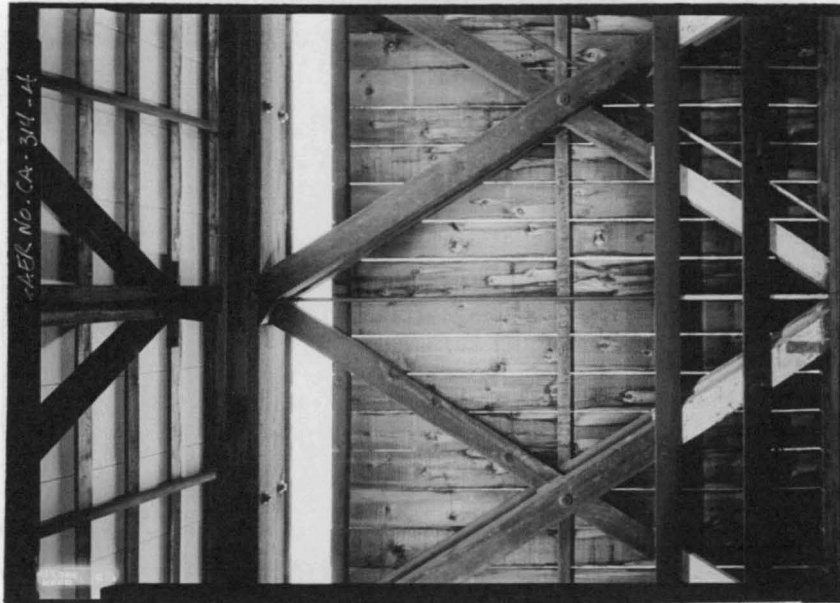
KNIGHT'S FERRY BRIDGE. Perspective view to southeast from midstream pier.
Photograph by Jet Lowe, 2004
[HAER No. CA-314-13]



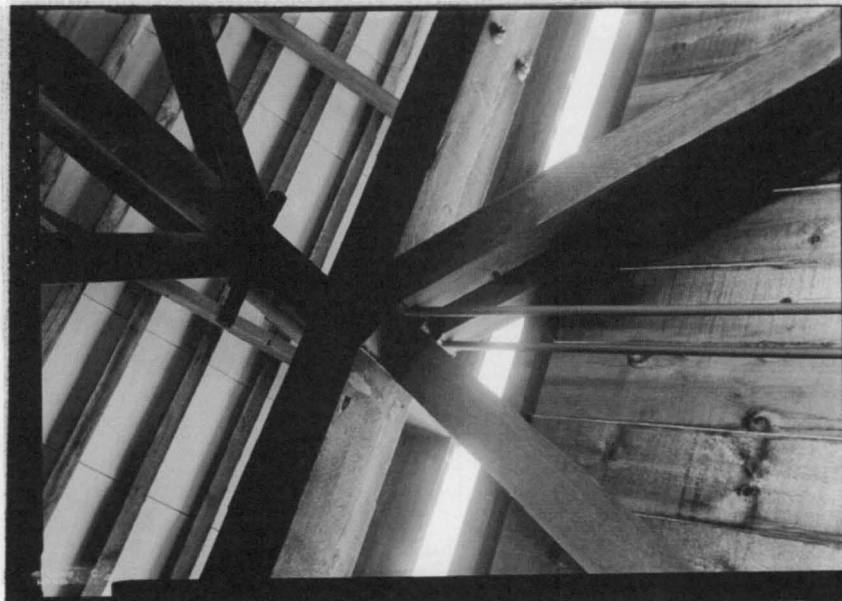
KNIGHT'S FERRY BRIDGE. Floor system detail at northwest abutment.
Photograph by Jet Lowe, 2004
[HAER No. CA-314-11]



KNIGHT'S FERRY BRIDGE. Interior from southeast portal.
Photograph by Jet Lowe, 2004
[HAER No. CA-314-9]



KNIGHT'S FERRY BRIDGE. Truss detail.
Photograph by Jet Lowe, 2004
[HAER No. CA-314-4]



KNIGHT'S FERRY BRIDGE. Top chord connection detail.
Photograph by Jet Lowe, 2004
[HAER No. CA-314-6]



“Knights Ferry and the Stanislaus River from the West,” showing present Knight’s Ferry Bridge (background).
A flume carries water across the Stanislaus River at Knight’s Ferry (foreground).

Lawrence & Houseworth, Publisher, 1866.

Courtesy of the Library of Congress, LC-USZ62-27457



Knights Ferry, Stanislaus River, General View from the East, Stanislaus County.

Lawrence & Houseworth, Publisher, 1866.

Courtesy of the Library of Congress, LC-USZ-62-27119

NPS Form 10-900

USDI/NPS NRHP Registration Form (Rev. 8-86)

OMB No. 1024-0018

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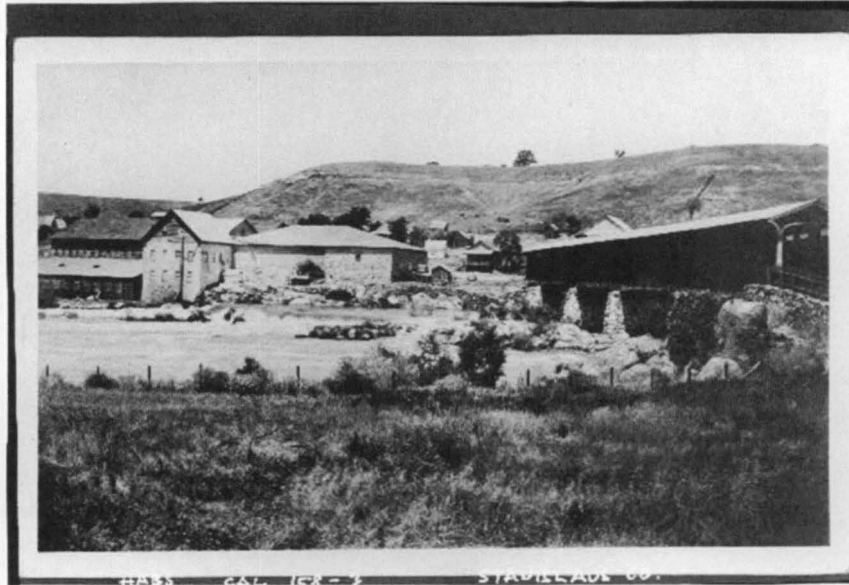
Photos and Drawings
National Register of Historic Places Registration Form



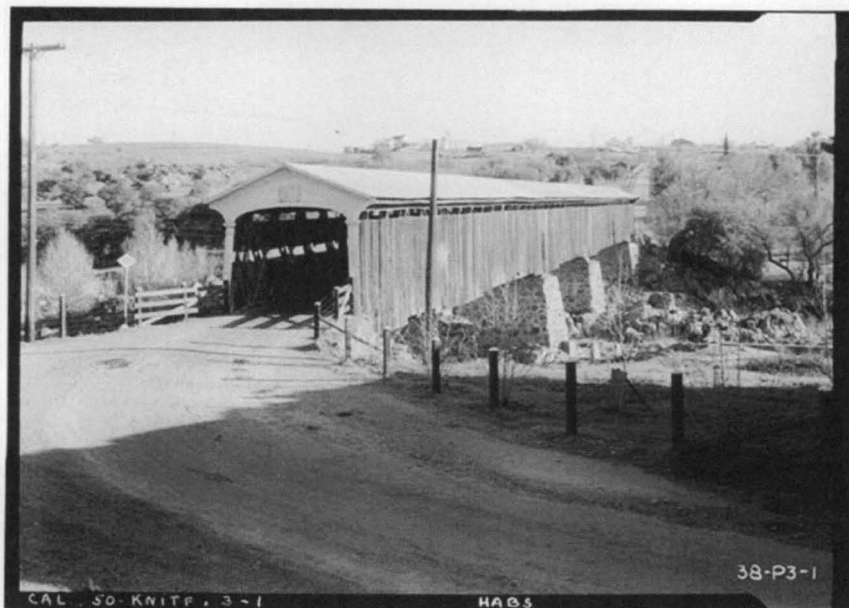
Stanislaus Flour Mill from the Bridge over the River at Knight's Ferry, Stanislaus County.
Lawrence & Houseworth, Publisher, 1866
Courtesy of the Library of Congress, LC-USZ-6-529



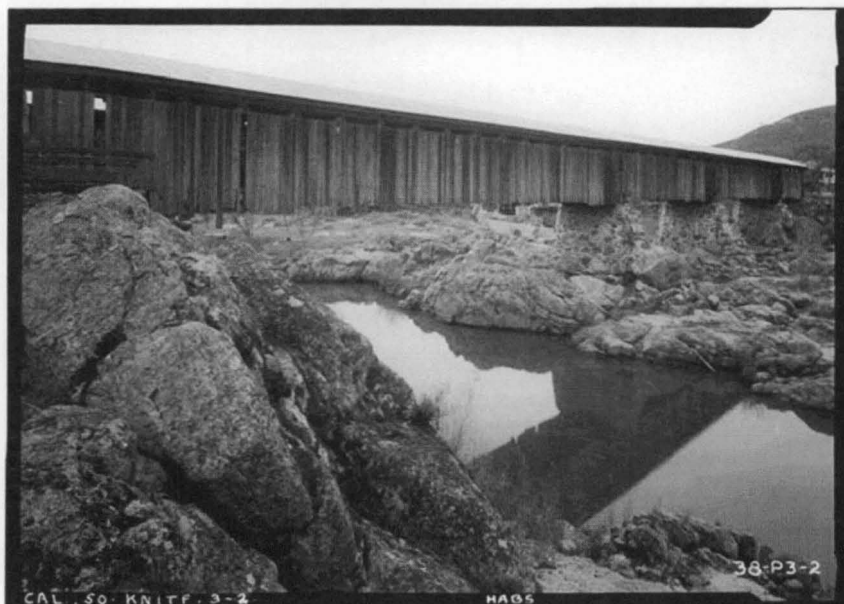
Stanislaus Flour Mill and Bridge at Knight's Ferry, Stanislaus County, California.
Lawrence & Houseworth, Publisher, 1866
Courtesy of the Library of Congress, LC-USZ-6-528



Tulloch Mill and Knight's Ferry Bridge.
Tulloch Collection reproduction, date unknown.
[HABS No. CA-158-1]



KNIGHT'S FERRY BRIDGE. General view from northwest.
Photograph by Roger Sturtevant, 1934
[HABS No. CA-158-2]



KNIGHT'S FERRY BRIDGE. General view from southeast.
Photograph by Roger Sturtevant, 1934
[HABS No. CA-158-3]

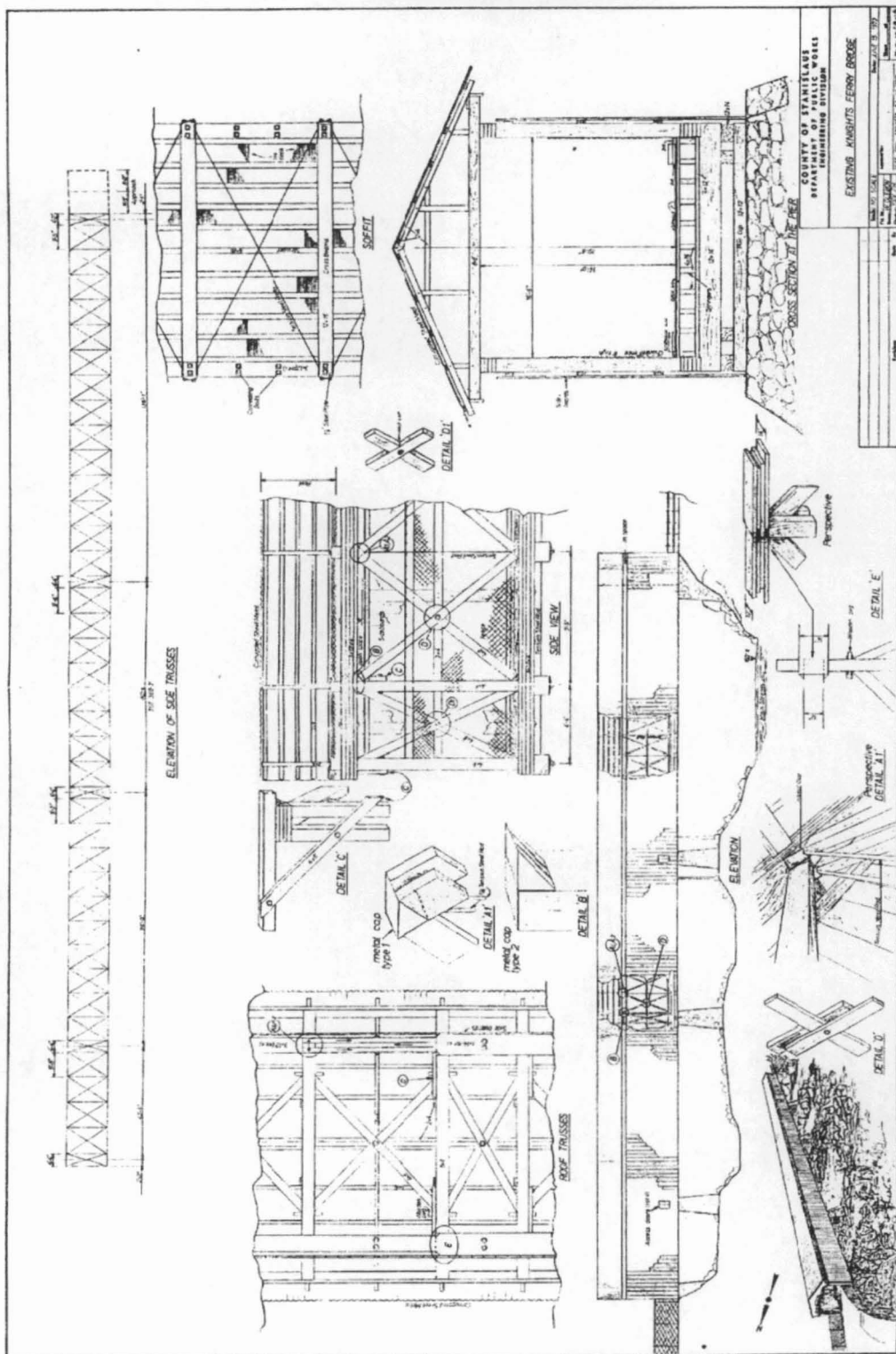
NPS Form 10-900

USDI/NPS NRHP Registration Form (Rev. 8-86)

OMB No. 1024-0018

KNIGHT'S FERRY BRIDGE
United States Department of the Interior, National Park Service

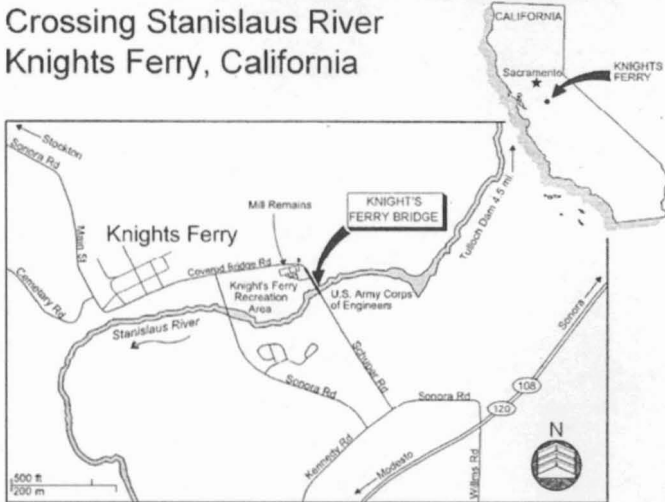
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Stanislaus County Department of Public Works, "Existing Knight's Ferry Bridge," 1972.

KNIGHT'S FERRY BRIDGE

Crossing Stanislaus River
Knights Ferry, California



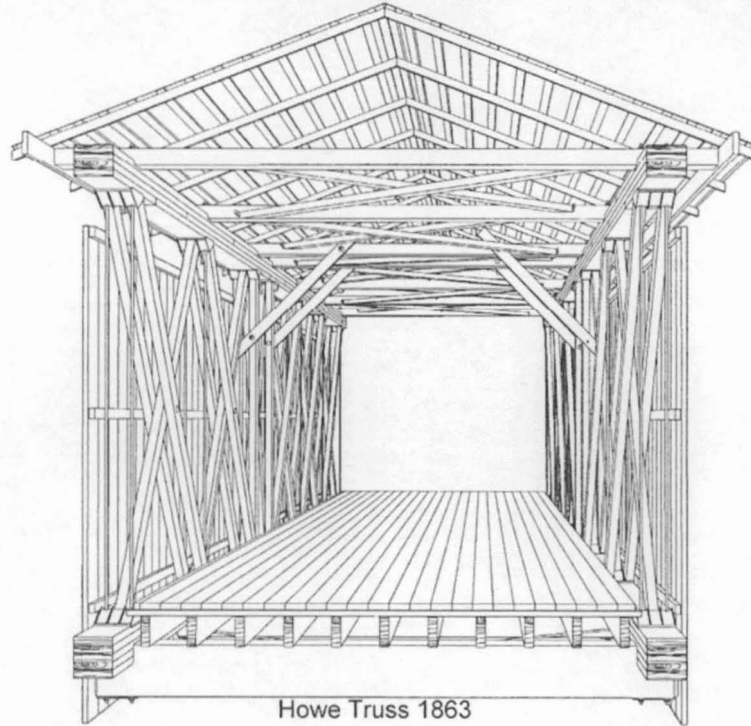
Map of Knights Ferry

The Knight's Ferry Bridge spans the Stanislaus River in a picturesque natural and historical setting at the interface of the rolling Sierra Nevada foothills and the fertile farmlands of California's Central Valley. The town was established in 1848 as a ferry crossing on the Sonora Road, one of the principal overland routes used by miners traveling between the Central Valley and the southern mines during the California gold rush. The high volume of traffic combined with the establishment of a substantial flour mill enabled Knight's Ferry to quickly develop into a thriving industrial village, which also served as the seat of Stanislaus County from 1862 to 1871.

Knight's Ferry Bridge is an outstanding example of the Howe truss, one of the most successful and widely-used American timber bridge truss types. Patented by William Howe (1803-1852) in 1840, the Howe truss was a ground-breaking design that used adjustable wrought iron rods to overcome the inherent difficulty of creating tension connections in wood structures and allow for easier and more efficient pre-stressing of the members. At 379' long, the four-span bridge is the longest east of the Mississippi and one of the most visually impressive and structurally intact of over 100 historic Howe truss covered bridges surviving in the United States.

Knight's Ferry's Howe trusses reflect construction variations occasionally found in covered bridges on the West Coast. The chords consist of a series of planks laid on the flat and laminated, rather than multiple timbers set on edge and bolted together and the floor beams are suspended from the lower chords, rather than resting on them.

The present bridge was completed in 1863 to replace an 1857 non-housed timber truss bridge that was destroyed by a flood in 1862. Knight's Ferry Bridge served traffic for nearly 120 years, closing to traffic in 1981, and was restored in 1988-1991 by renowned covered bridge specialist Milton S. Graton.



Howe Truss 1863

Today, the bridge serves as a pedestrian bridge and focal point for the U.S. Army Corps of Engineers' Knight's Ferry Recreation Area, developed as part of the 1980s New Melones Dam flood-control project.

The National Covered Bridges Recording Project was undertaken by the Historic American Engineering Record (HAER), a long-range program to document historically significant engineering and industrial works in the United States. HAER is administered by the Heritage Documentation Programs Division (Richard O'Connor, Chief), a division of the National Park Service, U.S. Department of the Interior. The Federal Highway Administration's National Historic Covered Bridge Preservation Program funded the project.

The 2011 HAER field team consisted of project leader Christopher H. Marston, HAER Architect, Jeremy T. Mauro, field supervisor, and Pavel Gorokhov, Catholic University. The drawings support earlier HAER documentation by historian Lola Bennett, and HAER photographer Jet Lowe, completed in 2004. The Knight's Ferry Bridge was documented using high definition surveying (HDS) technology. The data was collected with a Leica ScanStation 2 and Cyclone v7.3 software. The drawings were rendered using CloudWorx, an HDS plug-in for AutoCAD 2012.

ILLUSTRATED BY: PAUL GORMAN, 2012
NATIONAL COVERED BRIDGES RECORDING PROJECT
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR
KNIGHT'S FERRY
STANISLAUS COUNTY
STANISLAUS RIVER
CALIFORNIA
SHEET 1 OF 9
METRIC AMERICAN ENGINEERING RECORD
C.A.S.I.

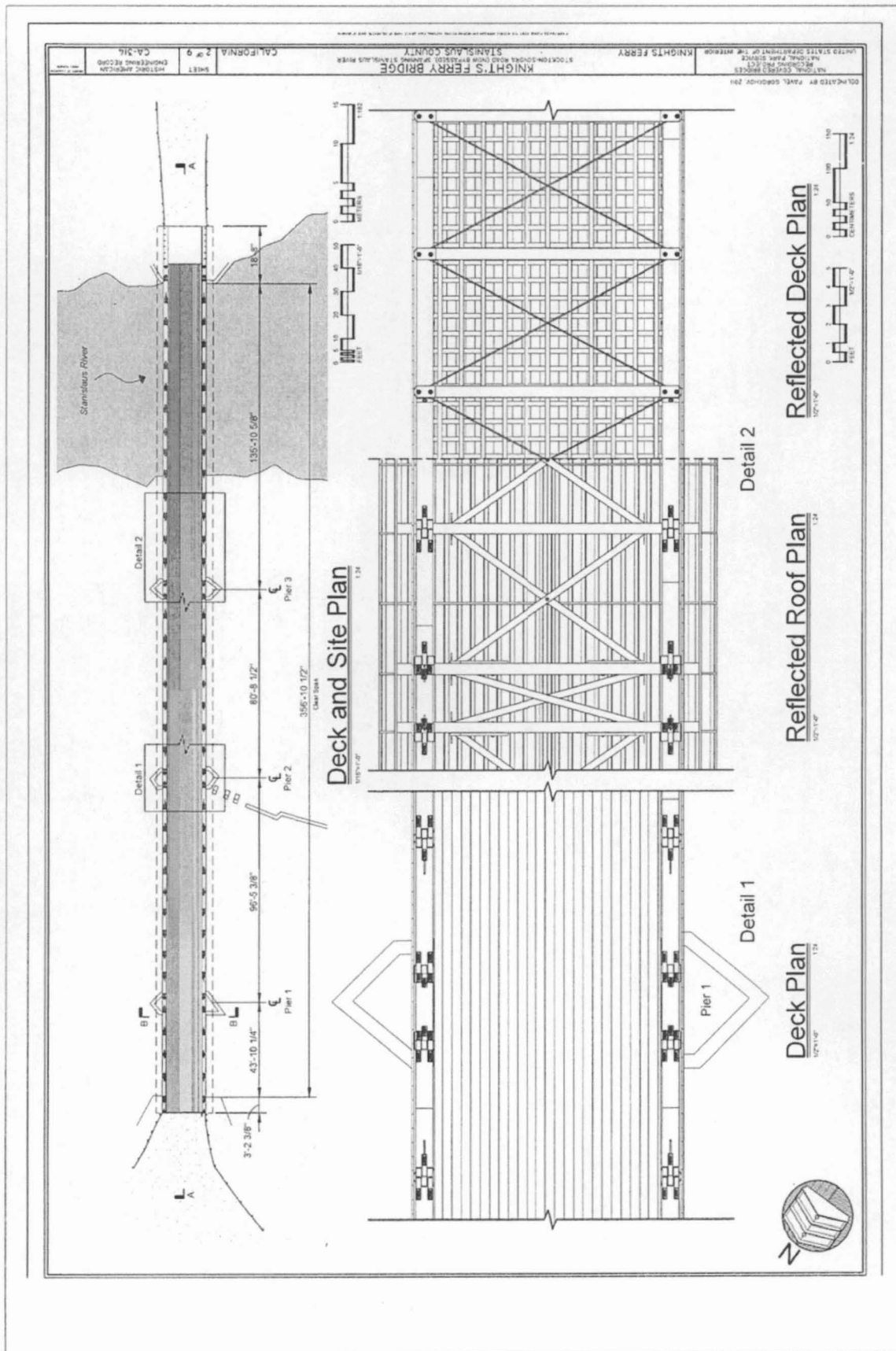
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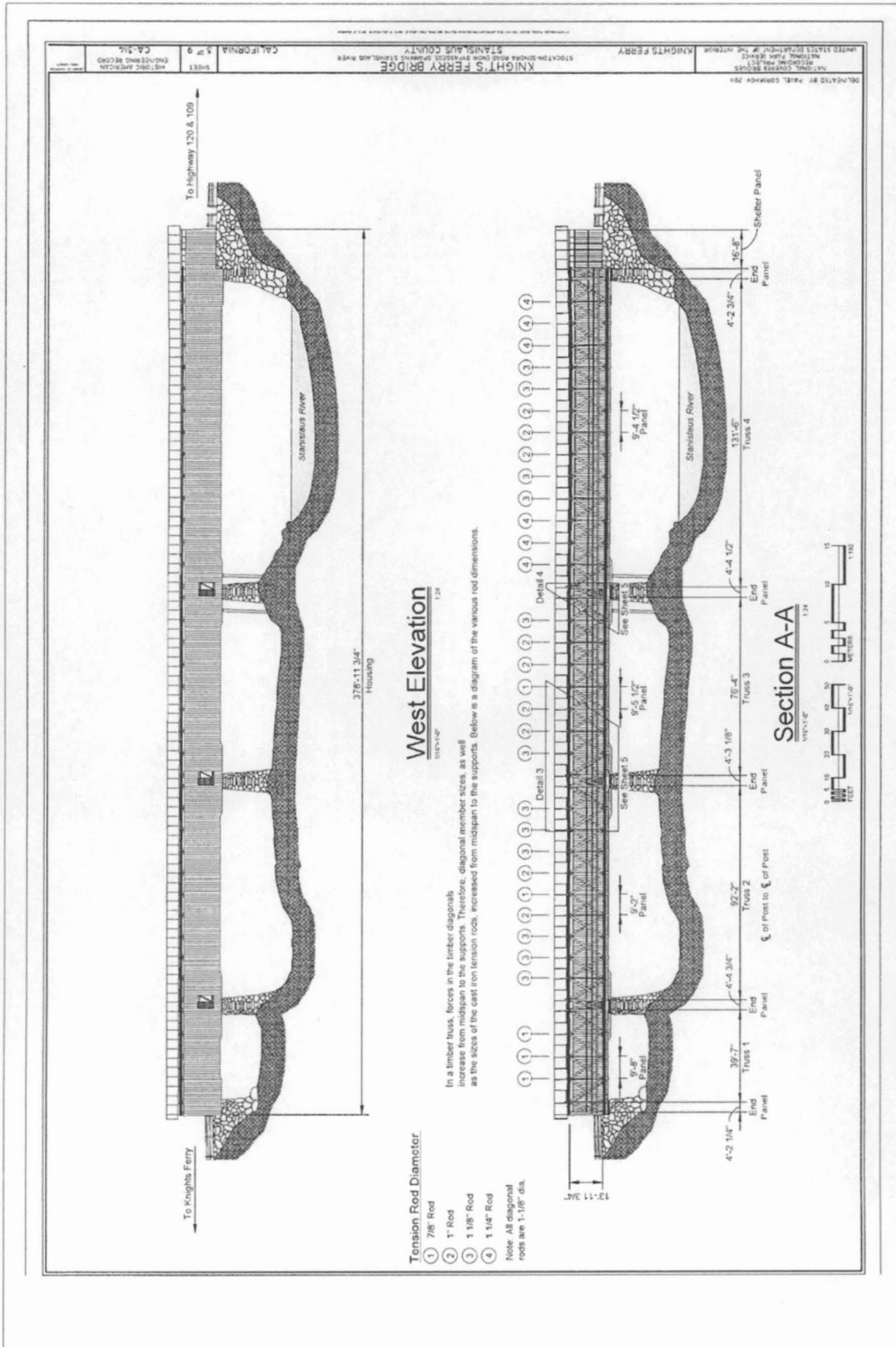
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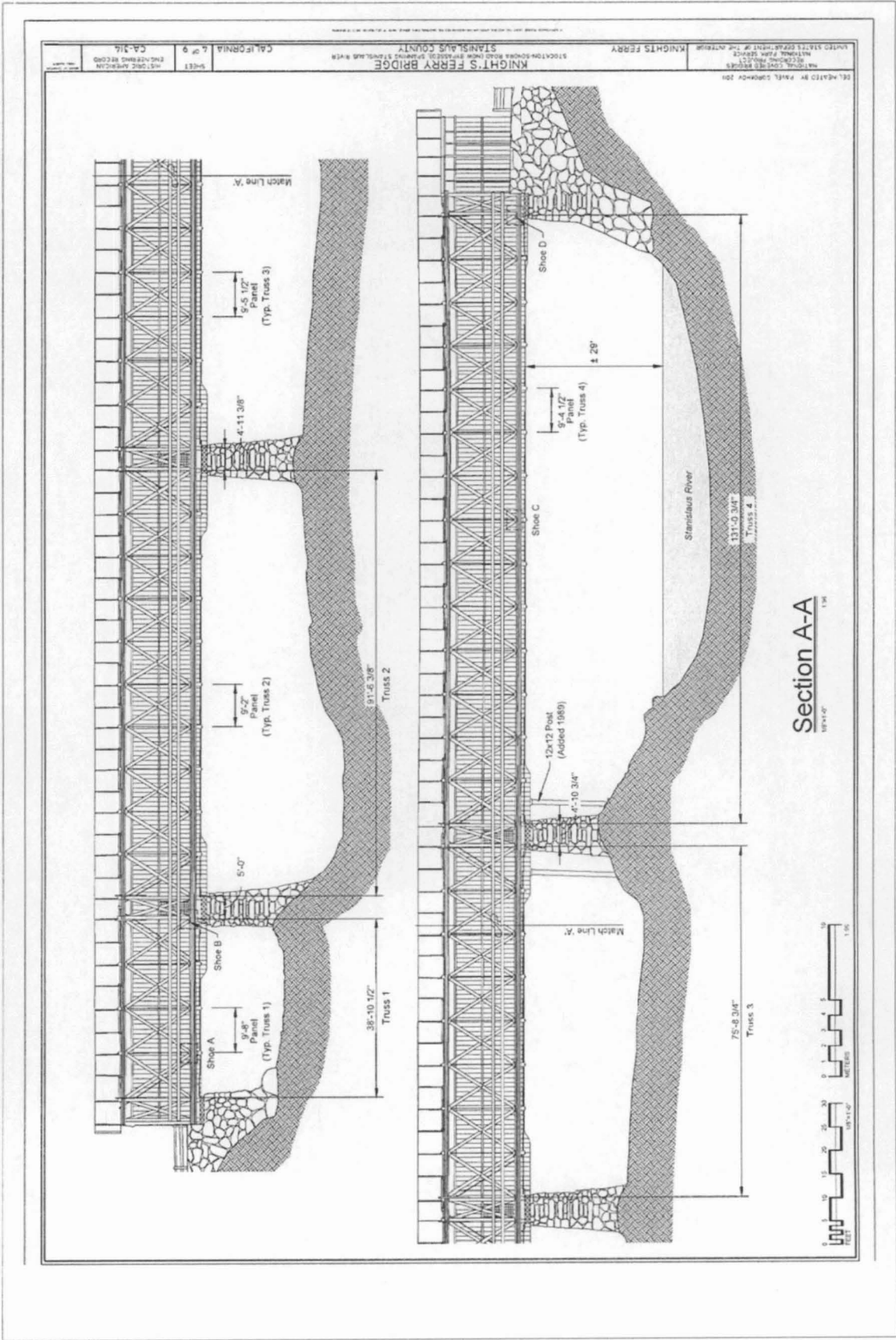
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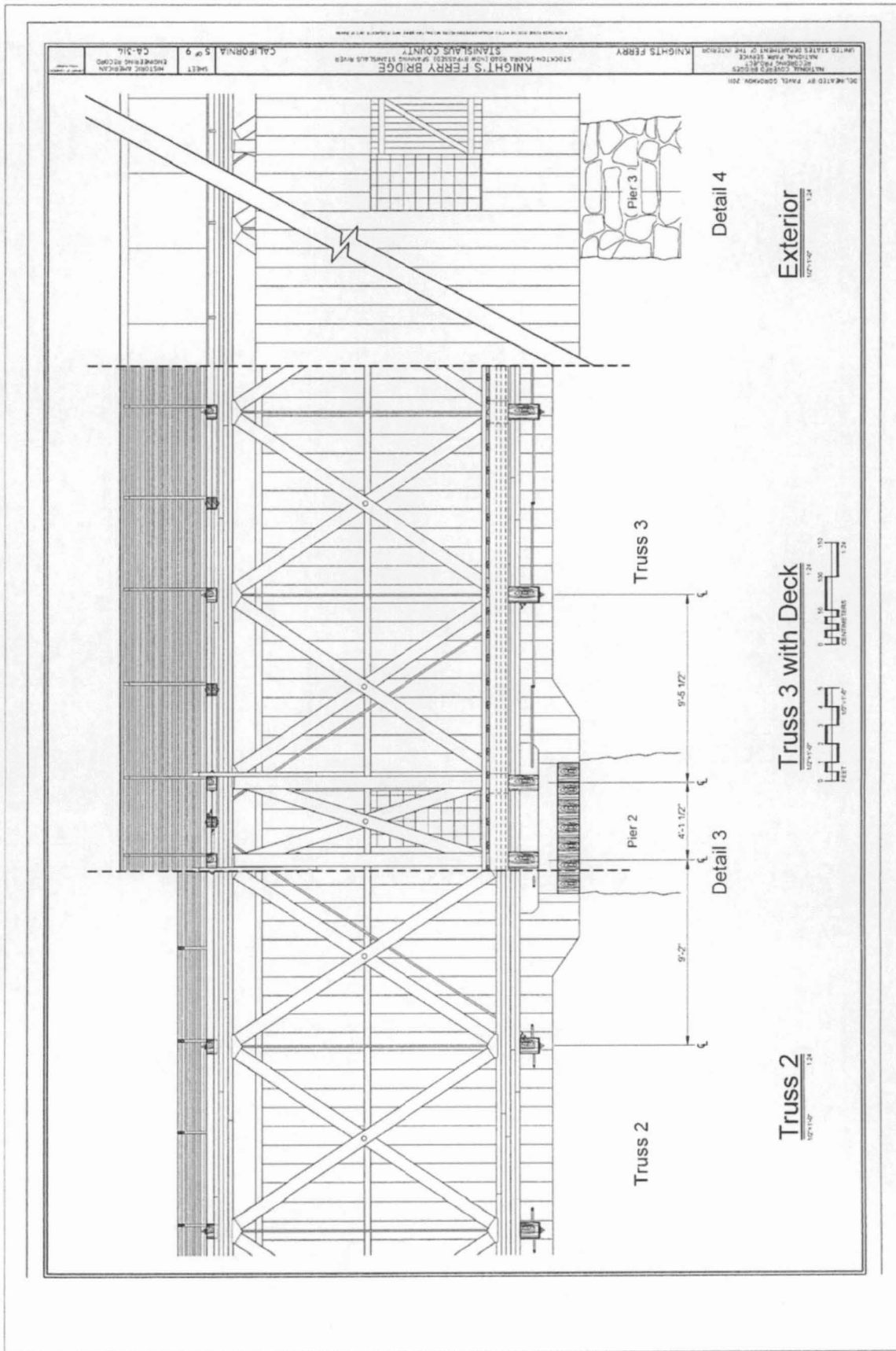
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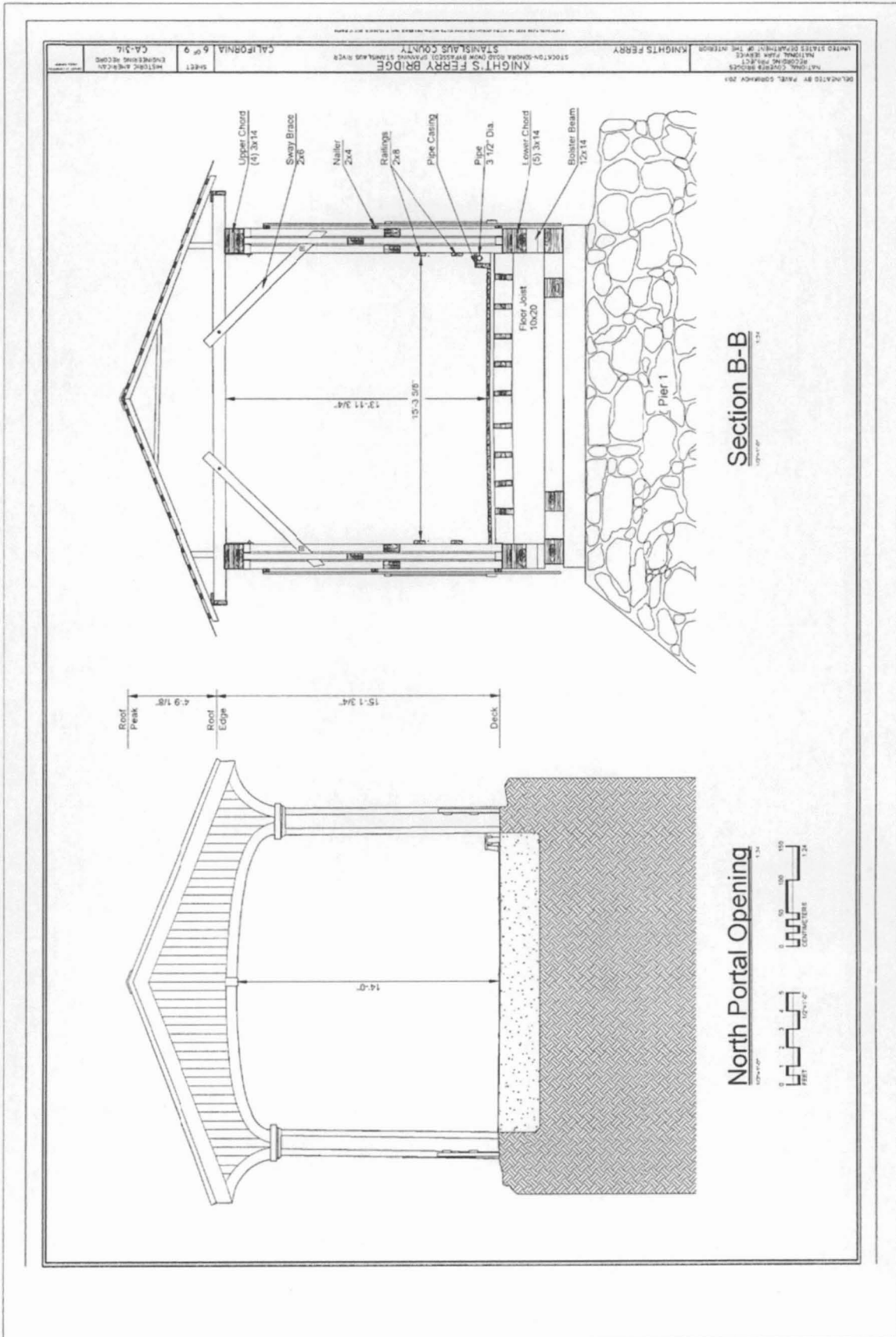
KNIGHT'S FERRY BRIDGE
United States Department of the Interior, National Park Service

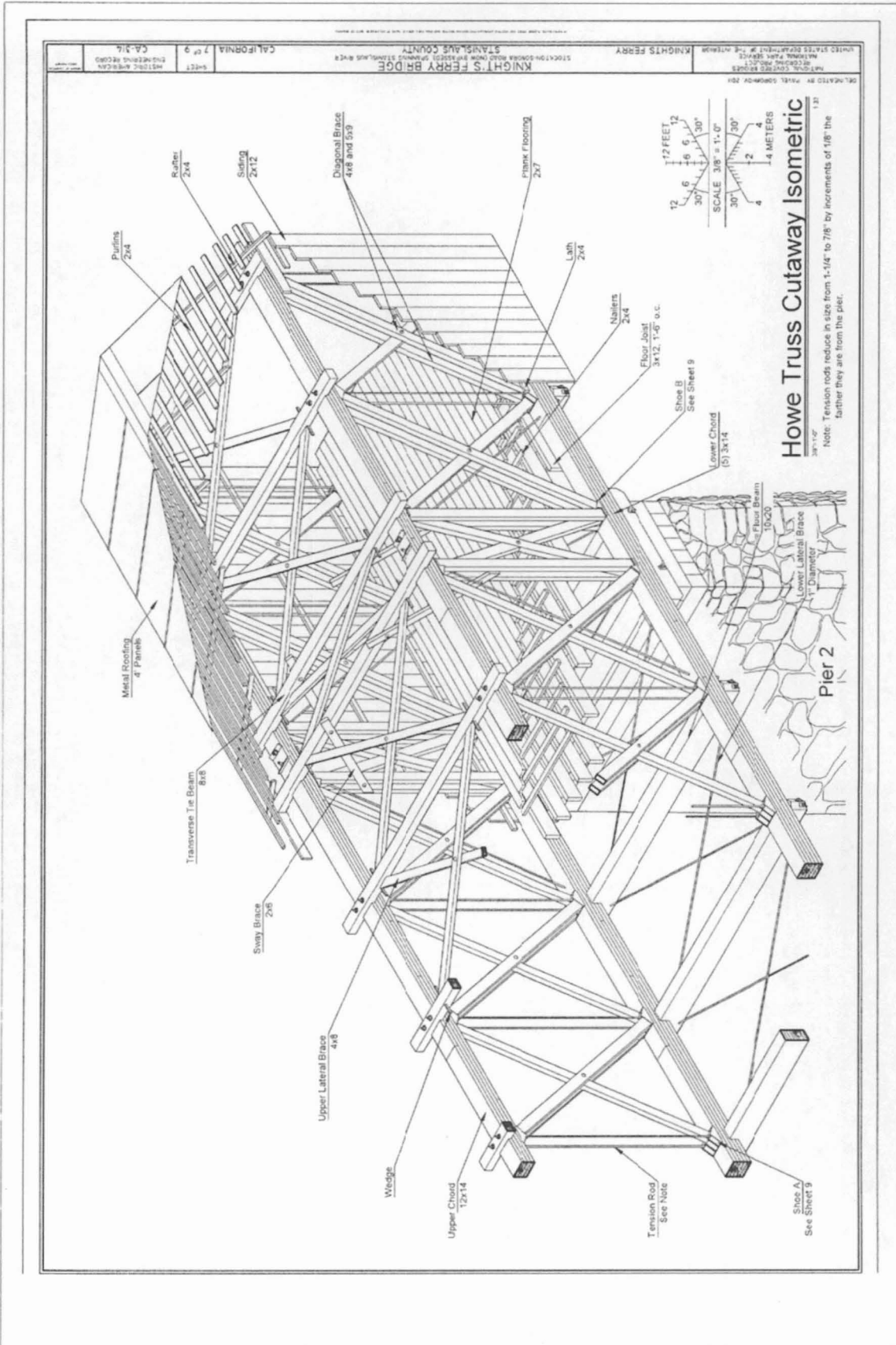
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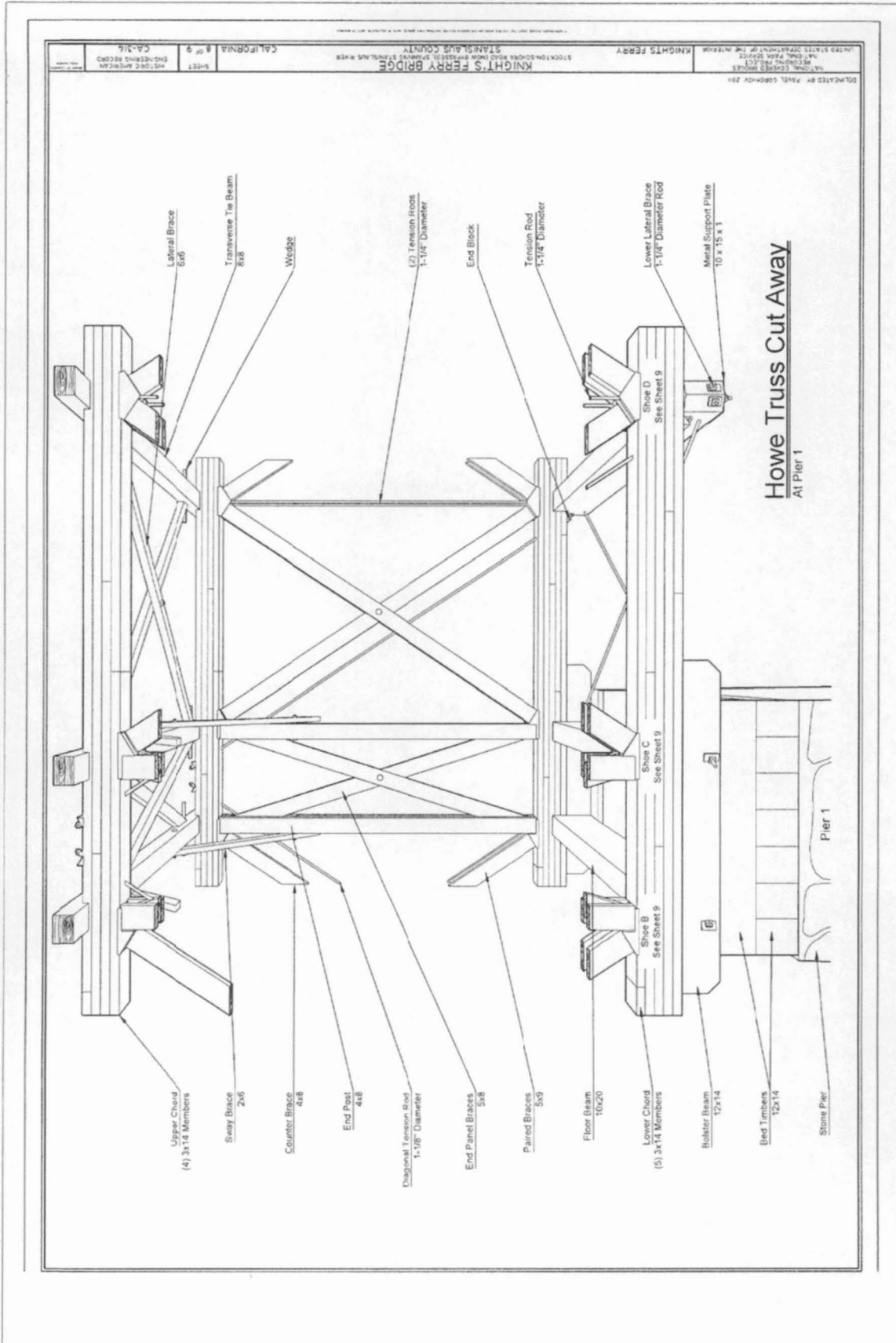


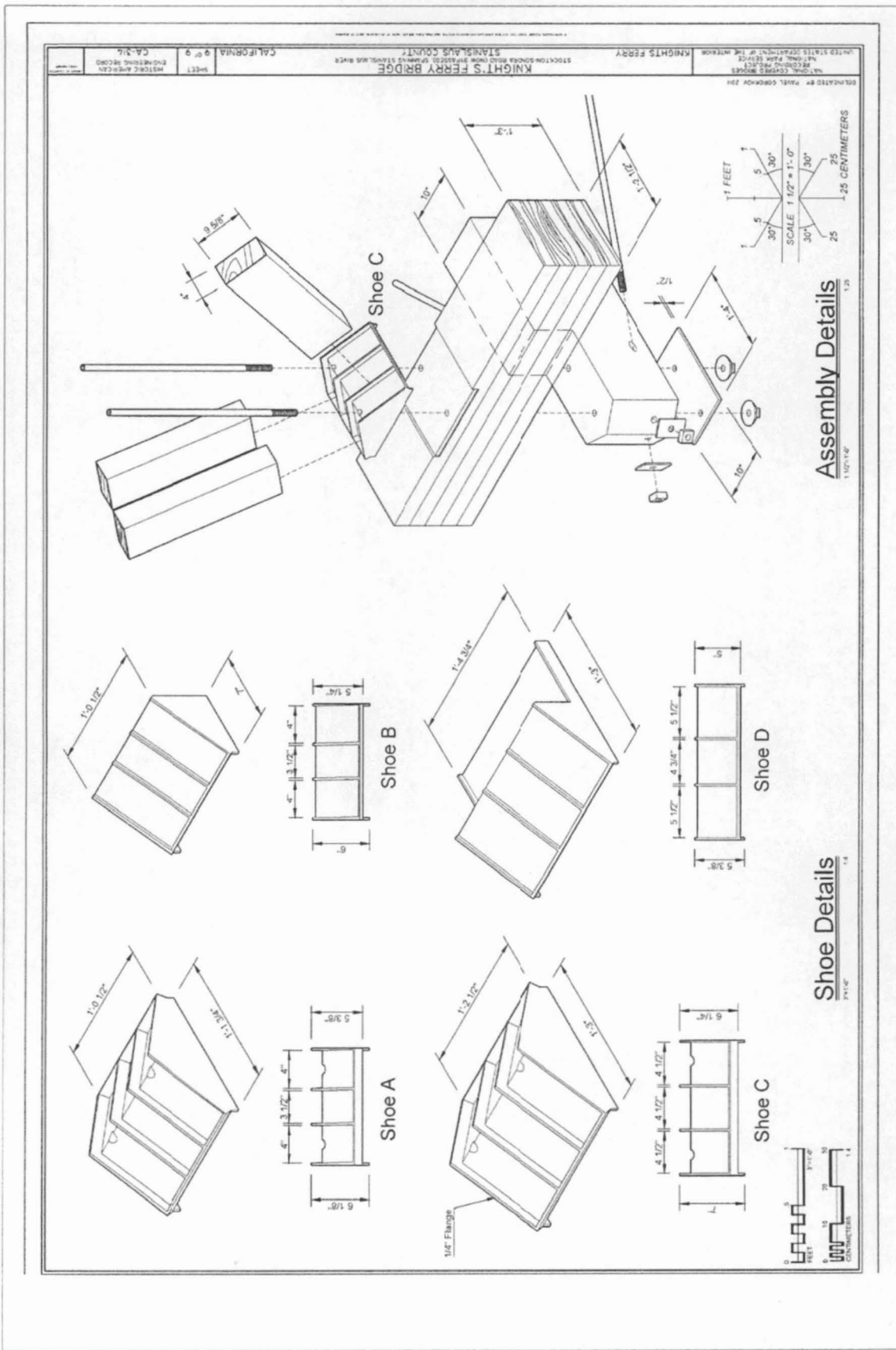




KNIGHT'S FERRY BRIDGE
United States Department of the Interior, National Park Service

Photos and Drawings
National Register of Historic Places Registration Form







NATIONAL HISTORIC LANDMARKS PROGRAM



FEDERAL EFFECTS OF NATIONAL HISTORIC LANDMARK DESIGNATION

The purpose of the National Historic Landmarks Program is to focus attention on properties of exceptional value to the nation as a whole rather than to a particular state or locality. The program recognizes and promotes the preservation efforts of federal, state, local agencies, and Indian tribes, as well as those of private organizations and individuals and encourages the owners of Landmark properties to observe preservation precepts.

If not already so recognized, properties designated as National Historic Landmarks are listed in the National Register of Historic Places upon designation as National Historic Landmarks. Listing of private property on the National Register does not prohibit under federal law or regulations any actions that may otherwise be taken by the property owner with respect to the property. For further information on the National Historic Landmarks program see: www.nps.gov/history/nhl.

Specific effects of designation are:

- A. The National Register was designed to be and is administered as a planning tool. Federal agencies undertaking a project having an effect on a listed or eligible property must provide the Advisory Council on Historic Preservation a reasonable opportunity to comment pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended. The Advisory Council has adopted procedures concerning, *inter alia*, their commenting responsibility in 36 CFR, Part 800.
- B. Section 110(f) of the National Historic Preservation Act of 1966, as amended, requires that before approval of any federal undertaking which may directly and adversely affect any National Historic Landmark, the head of the responsible federal agency shall, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to such landmark, and shall afford the Advisory Council a reasonable opportunity to comment on the undertaking.
- C. Listing in the National Register makes property owners eligible to be considered for federal grants in-aid for historic preservation.
- D. If a property is listed in the National Register, certain special federal income tax provisions may apply. The Tax Reform Act of 1986 revises the historic preservation tax incentives authorized by Congress in the Tax Reform Act of 1976, the Tax Recovery Act of 1978, the Tax Treatment Extension Act of 1980, the Economic Recovery Tax Act of 1981, and the Tax Reform Act of 1984, and as of January 1, 1987, provides for a 20 percent investment tax credit with a full adjustment to basis for rehabilitating historic commercial, industrial, and rental residential buildings. The Tax Treatment Extension Act of 1980 provides federal tax deductions for charitable contributions or for conservation purposes of partial interests in historically important land areas or structures.
- E. If a property contains surface coal resources and is listed in the National Register, certain provisions of the Surface Mining and Control Act of 1977 require consideration of a property's historic values in determining issuance of a surface coal mining permit.
- F. Section 8 of the National Park System General Authorities Act of 1970, as amended (90 Stat. 1940, 16 U.S.C. 1-5), directs the Secretary to prepare an annual report to Congress which identifies all National Historic Landmarks that exhibit known or anticipated damage or threats to the integrity of their resources. In addition, National Historic Landmarks may be studied by NPS for possible recommendation to Congress for inclusion in the National Park System.
- G. Section 9 of the Mining in the National Parks Act of 1976 (90 Stat. 1342, 16 U.S.C. 1980) directs the Secretary of the Interior to submit to the Advisory Council a report on any surface mining activity which the Secretary has determined may destroy a National Historic Landmark in whole or in part, and to request the Advisory Council's advice on alternative measures to mitigate or abate such activity.

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- 65.7 Monitoring National Historic Landmarks.
- 65.8 Alteration of National Historic Landmark boundaries.
- 65.9 Withdrawal of National Historic Landmark designation.
- 65.10 Appeals for designation.

AUTHORITY: 16 U.S.C. 461 *et seq.*; 16 U.S.C. 470 *et seq.*

SOURCE: 48 FR 4655, Feb. 2, 1983, unless otherwise noted.

§ 65.1 Purpose and authority.

The purpose of the National Historic Landmarks Program is to identify and designate National Historic Landmarks, and encourage the long range preservation of nationally significant properties that illustrate or commemorate the history and prehistory of the United States. These regulations set forth the criteria for establishing national significance and the procedures used by the Department of the Interior for conducting the National Historic Landmarks Program.

(a) In the Historic Sites Act of 1935 (45 Stat. 666, 16 U.S.C. 461 *et seq.*) the Congress declared that it is a national policy to preserve for public use historic sites, buildings and objects of national significance for the inspiration and benefit of the people of the United States and

(b) To implement the policy, the Act authorizes the Secretary of the Interior to perform the following duties and functions, among others:

(1) To make a survey of historic and archeological sites, buildings and objects for the purpose of determining which possess exceptional value as commemorating or illustrating the history of the United States;

(2) To make necessary investigations and researches in the United States relating to particular sites, buildings or objects to obtain true and accurate historical and archeological facts and information concerning the same; and

(3) To erect and maintain tablets to mark or commemorate historic or prehistoric places and events of national historical or archeological significance.

(c) The National Park Service (NPS) administers the National Historic Landmarks Program on behalf of the Secretary.

**PART 65—NATIONAL HISTORIC
LANDMARKS PROGRAM**

- Sec.
- 65.1 Purpose and authority.
- 65.2 Effects of designation.
- 65.3 Definitions.
- 65.4 National Historic Landmark criteria.
- 65.5 Designation of National Historic Landmarks.
- 65.6 Recognition of National Historic Landmarks.

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§ 65.2 Effects of designation.

(a) The purpose of the National Historic Landmarks Program is to focus attention on properties of exceptional value to the nation as a whole rather than to a particular State or locality. The program recognizes and promotes the preservation efforts of Federal, State and local agencies, as well as of private organizations and individuals and encourages the owners of landmark properties to observe preservation precepts.

(b) Properties designated as National Historic Landmarks are listed in the National Register of Historic Places upon designation as National Historic Landmarks. Listing of private property on the National Register does not prohibit under Federal law or regulations any actions which may otherwise be taken by the property owner with respect to the property.

(c) Specific effects of designation are:

(1) The National Register was designed to be and is administered as a planning tool. Federal agencies undertaking a project having an effect on a listed or eligible property must provide the Advisory Council on Historic Preservation a reasonable opportunity to comment pursuant to section 106 of the National Historic Preservation Act of 1966, as amended. The Advisory Council has adopted procedures concerning, *inter alia*, their commenting responsibility in 36 CFR part 800.

(2) Section 110(f) of the National Historic Preservation Act of 1966, as amended, requires that before approval of any Federal undertaking which may directly and adversely affect any National Historic Landmark, the head of the responsible Federal agency shall, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to such landmark, and shall afford the Advisory Council a reasonable opportunity to comment on the undertaking.

(3) Listing in the National Register makes property owners eligible to be considered for Federal grants-in-aid and loan guarantees (when implemented) for historic preservation.

(4) If a property is listed in the National Register, certain special Federal income tax provisions may apply to the owners of the property pursuant to sec-

tion 2124 of the Tax Reform Act of 1976, the Economic Recovery Tax Act of 1981 and the Tax Treatment Extension Act of 1980.

(5) If a property contains surface coal resources and is listed in the National Register, certain provisions of the Surface Mining and Control Act of 1977 require consideration of a property's historic values in determining issuance of a surface coal mining permit.

(6) Section 8 of the National Park System General Authorities Act of 1970, as amended (90 Stat. 1940, 16 U.S.C. 1-5), directs the Secretary to prepare an annual report to Congress which identifies all National Historic Landmarks that exhibit known or anticipated damage or threats to the integrity of their resources. In addition, National Historic Landmarks may be studied by NPS for possible recommendation to Congress for inclusion in the National Park System.

(7) Section 9 of the Mining in the National Parks Act of 1976 (90 Stat. 1342, 16 U.S.C. 1980) directs the Secretary of the Interior to submit to the Advisory Council a report on any surface mining activity which the Secretary has determined may destroy a National Historic Landmark in whole or in part, and to request the advisory Council's advice on alternative measures to mitigate or abate such activity.

§ 65.3 Definitions.

As used in this rule:

(a) *Advisory Council* means the Advisory Council on Historic Preservation, established by the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 *et seq.*). Address: Executive Director, Advisory Council on Historic Preservation, 1522 K Street NW, Washington, DC 20005.

(b) *Chief elected local official* means the mayor, county judge or otherwise titled chief elected administrative official who is the elected head of the local political jurisdiction in which the property is located.

(c) *Advisory Board* means the National Park System Advisory Board which is a body of authorities in several fields of knowledge appointed by the Secretary under authority of the Historic Sites Act of 1935, as amended.

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(d) *District* means a geographically definable area, urban or rural, that possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united by past events or aesthetically by plan or physical development. A district may also comprise individual elements separated geographically but linked by association or history.

(e) *Endangered property* means a historic property which is or is about to be subjected to a major impact that will destroy or seriously damage the resources which make it eligible for National Historic Landmark designation.

(f) *Federal Preservation Officer* means the official designated by the head of each Federal agency responsible for coordinating that agency's activities under the National Historic Preservation Act of 1966, as amended, including nominating properties under that agency's ownership or control to the National Register.

(g) *Keeper* means the Keeper of the National Register of Historic Places.

(h) *Landmark* means National Historic Landmark and is a district, site, building, structure or object, in public or private ownership, judged by the Secretary to possess national significance in American history, archeology, architecture, engineering and culture, and so designated by him.

(i) *National Register* means the National Register of Historic Places, which is a register of districts, sites, buildings, structures and objects significant in American history, architecture, archeology, engineering and culture, maintained by the Secretary. (Section 2(b) of the Historic Sites Act of 1935 (49 Stat. 666, 16 U.S.C. 461) and section 101(a)(1) of the National Historic Preservation Act of 1966 (80 Stat. 915; 16 U.S.C. 470), as amended.) (Address: Chief, Interagency Resource Management Division, 440 G Street NW, Washington, DC 20243.)

(j) *National Historic Landmarks Program* means the program which identifies, designates, recognizes, lists, and monitors National Historic Landmarks conducted by the Secretary through the National Park Service. (Address: Chief, History Division, National Park Service, Washington, DC 20240; address-

es of other participating divisions found throughout these regulations.)

(k) *Object* means a material thing of functional, aesthetic, cultural, historical or scientific value that may be, by nature or design, movable yet related to a specific setting or environment.

(l) *Owner* or *owners* means those individuals, partnerships, corporations or public agencies holding fee simple title to property. "Owner" or "owners" does not include individuals, partnerships, corporations or public agencies holding easements or less than fee interests (including leaseholds) of any nature.

(m) *Property* means a site, building, object, structure or a collection of the above which form a district.

(n) *Site* means the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined or vanished, where the location itself maintains historical or archeological value regardless of the value of any existing structure.

(o) *State official* means the person who has been designated in each State to administer the State Historic Preservation Program.

(p) *Structure* means a work made by human beings and composed of interdependent and interrelated parts in a definite pattern of organization.

[48 FR 4655, Feb. 2, 1983, as amended at 62 FR 30235, June 3, 1997]

§ 65.4 National Historic Landmark criteria.

The criteria applied to evaluate properties for possible designation as National Historic Landmarks or possible determination of eligibility for National Historic Landmark designation are listed below. These criteria shall be used by NPS in the preparation, review and evaluation of National Historic Landmark studies. They shall be used by the Advisory Board in reviewing National Historic Landmark studies and preparing recommendations to the Secretary. Properties shall be designated National Historic Landmarks only if they are nationally significant. Although assessments of national significance should reflect both public perceptions and professional judgments, the evaluations of properties being considered for landmark designation are

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undertaken by professionals, including historians, architectural historians, archeologists and anthropologists familiar with the broad range of the nation's resources and historical themes. The criteria applied by these specialists to potential landmarks do not define significance nor set a rigid standard for quality. Rather, the criteria establish the qualitative framework in which a comparative professional analysis of national significance can occur. The final decision on whether a property possesses national significance is made by the Secretary on the basis of documentation including the comments and recommendations of the public who participate in the designation process.

(a) Specific Criteria of National Significance: The quality of national significance is ascribed to districts, sites, buildings, structures and objects that possess exceptional value or quality in illustrating or interpreting the heritage of the United States in history, architecture, archeology, engineering and culture and that possess a high degree of integrity of location, design, setting, materials, workmanship, feeling and association, and:

(1) That are associated with events that have made a significant contribution to, and are identified with, or that outstandingly represent, the broad national patterns of United States history and from which an understanding and appreciation of those patterns may be gained; or

(2) That are associated importantly with the lives of persons nationally significant in the history of the United States; or

(3) That represent some great idea or ideal of the American people; or

(4) That embody the distinguishing characteristics of an architectural type specimen exceptionally valuable for a study of a period, style or method of construction, or that represent a significant, distinctive and exceptional entity whose components may lack individual distinction; or

(5) That are composed of integral parts of the environment not sufficiently significant by reason of historical association or artistic merit to warrant individual recognition but collectively compose an entity of exceptional historical or artistic signifi-

cance, or outstandingly commemorate or illustrate a way of life or culture; or

(6) That have yielded or may be likely to yield information of major scientific importance by revealing new cultures, or by shedding light upon periods of occupation over large areas of the United States. Such sites are those which have yielded, or which may reasonably be expected to yield, data affecting theories, concepts and ideas to a major degree.

(b) Ordinarily, cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings and properties that have achieved significance within the past 50 years are not eligible for designation. Such properties, however, will qualify if they fall within the following categories:

(1) A religious property deriving its primary national significance from architectural or artistic distinction or historical importance; or

(2) A building or structure removed from its original location but which is nationally significant primarily for its architectural merit, or for association with persons or events of transcendent importance in the nation's history and the association consequential; or

(3) A site of a building or structure no longer standing but the person or event associated with it is of transcendent importance in the nation's history and the association consequential; or

(4) A birthplace, grave or burial if it is of a historical figure of transcendent national significance and no other appropriate site, building or structure directly associated with the productive life of that person exists; or

(5) A cemetery that derives its primary national significance from graves of persons of transcendent importance, or from an exceptionally distinctive design or from an exceptionally significant event; or

(6) A reconstructed building or ensemble of buildings of extraordinary national significance when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when

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no other buildings or structures with the same association have survived; or

(7) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own national historical significance; or

(8) A property achieving national significance within the past 50 years if it is of extraordinary national importance.

§ 65.5 Designation of National Historic Landmarks.

Potential National Historic Landmarks are identified primarily by means of theme studies and in some instances by special studies. Nominations and recommendations made by the appropriate State officials, Federal Preservation Officers and other interested parties will be considered in scheduling and conducting studies.

(a) *Theme studies.* NPS defines and systematically conducts organized theme studies which encompass the major aspects of American history. The theme studies provide a contextual framework to evaluate the relative significance of historic properties and determine which properties meet National Historic Landmark criteria. Theme studies will be announced in advance through direct notice to appropriate State officials, Federal Preservation Officers and other interested parties and by notice in the FEDERAL REGISTER. Within the established thematic framework, NPS will schedule and conduct National Historic Landmark theme studies according to the following priorities. Themes which meet more of these priorities ordinarily will be studied before those which meet fewer of the priorities:

(1) Theme studies not yet begun as identified in "History and Prehistory in the National Park System," 1982.

(2) Theme studies in serious need of revision.

(3) Theme studies which relate to a significant number of properties listed in the National Register bearing opinions of State Historic Preservation Officers and Federal Preservation Officers that such properties are of potential national significance. (Only those recommendations which NPS determines are likely to meet the land-

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marks criteria will be enumerated in determining whether a significant number exists in a theme study.)

(4) Themes which reflect the broad planning needs of NPS and other Federal agencies and for which the funds to conduct the study are made available from sources other than the regularly programmed funds of the National Historic Landmarks Program.

(b) *Special Studies.* NPS will conduct special studies for historic properties outside of active theme studies according to the following priorities:

(1) Studies authorized by Congress or mandated by Executive Order will receive the highest priority.

(2) Properties which NPS determines are endangered and potentially meet the National Historic Landmarks criteria, whether or not the theme in which they are significant has been studied.

(3) Properties listed in the National Register bearing State or Federal agency recommendations of potential national significance where NPS concurs in the evaluation and the property is significant in a theme already studied.

(c)(1) When a property is selected for study to determine its potential for designation as a National Historic Landmark, NPS will notify in writing, except as provided below, (i) the owner(s), (ii) the chief elected local official, (iii) the appropriate State official, (iv) the Members of Congress who represent the district and State in which the property is located, and, (v) if the property is on an Indian reservation, the chief executive officer of the Indian tribe, that it will be studied to determine its potential for designation as a National Historic Landmark. This notice will provide information on the National Historic Landmarks Program, the designation process and the effects of designation.

(2) When the property has more than 50 owners, NPS will notify in writing (i) the chief elected local official, (ii) the appropriate State official, (iii) the Members of Congress who represent the district and State in which the property is located, and, (iv) if the property is on an Indian reservation, the chief executive officer of the Indian tribe, and (v) provide general notice to the property owners. This general notice

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will be published in one or more local newspapers of general circulation in the area in which the potential National Historic Landmark is located and will provide information on the National Historic Landmarks Program, the designation process and the effects of designation. The researcher will visit each property selected for study unless it is determined that an onsite investigation is not necessary. In the case of districts with more than 50 owners NPS may conduct a public information meeting if widespread public interest so warrants or on request by the chief elected local official.

(3) Properties for which a study was conducted before the effective date of these regulations are not subject to the requirements of paragraphs (c) (1) and (2) of this section.

(4) The results of each study will be incorporated into a report which will contain at least

(i) A precise description of the property studied; and

(ii) An analysis of the significance of the property and its relationship to the National Historic Landmark criteria.

(d)(1) Properties appearing to qualify for designation as National Historic Landmarks will be presented to the Advisory Board for evaluation except as specified in paragraph (h) of this section.

(2) Before the Advisory Board's review of a property, NPS will provide written notice of this review, except as provided below, and a copy of the study report to (i) the owner(s) of record; (ii) the appropriate State official; (iii) the chief elected local official; (iv) the Members of Congress who represent the district and State in which the property is located; and, (v) if the property is located on an Indian reservation, the chief executive officer of the Indian tribe. The list of owners shall be obtained from official land or tax record, whichever is most appropriate, within 90 days prior to the notification of intent to submit to the Advisory Board. If in any State the land or tax record is not the appropriate list an alternative source of owners may be used. NPS is responsible for notifying only those owners whose names appear on the list. Where there is more than one owner on

the list each separate owner shall be notified.

(3) In the case of a property with more than 50 owners, NPS will notify, in writing, (i) the appropriate State official; (ii) the chief elected local official; (iii) the Members of Congress who represent the district and State in which the property is located; (iv) if the property is located on an Indian reservation, the chief executive officer of the Indian tribe; and, (v) will provide general notice to the property owners. The general notice will be published in one or more local newspapers of general circulation in the area in which the property is located. A copy of the study report will be made available on request. Notice of Advisory Board review will also be published in the FEDERAL REGISTER.

(4) Notice of Advisory Board review will be given at least 60 days in advance of the Advisory Board meeting. The notice will state date, time and location of the meeting; solicit written comments and recommendations on the study report; provide information on the National Historic Landmarks Program, the designation process and the effects of designation and provide the owners of private property not more than 60 days in which to concur in or object in writing to the designation. Notice of Advisory Board meetings and the agenda will also be published in the FEDERAL REGISTER. Interested parties are encouraged to submit written comments and recommendations which will be presented to the Advisory Board. Interested parties may also attend the Advisory Board meeting and upon request will be given an opportunity to address the Board concerning a property's significance, integrity and proposed boundaries.

(5) Upon notification, any owner of private property who wishes to object shall submit to the Chief, History Division, a notarized statement that the party is the sole or partial owner of record of the property, as appropriate, and objects to the designations. Such notice shall be submitted during the 60-day commenting period. Upon receipt of notarized objections respecting a district or an individual property with multiple ownership it is the responsibility of NPS to ascertain whether a

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majority of owners have so objected. If an owner whose name did not appear on the list certifies in a written notarized statement that the party is the sole or partial owner of a nominated private property such owner shall be counted by NPS in determining whether a majority of owners has objected. Each owner of private property in a district has one vote regardless of how many properties or what part of one property that party owns and regardless of whether the property contributes to the significance of the district.

(6) The commenting period following notification can be waived only when all property owners and the chief elected local official have agreed in writing to the waiver.

(e)(1) The Advisory Board evaluates such factors as a property's significance, integrity, proposed boundaries and the professional adequacy of the study. If the Board finds that these conditions are met, it may recommend to the Secretary that a property be designated or declared eligible for designation as a National Historic Landmark. If one or more of the conditions are not met, the Board may recommend that the property not be designated a landmark or that consideration of it be deferred for further study, as appropriate. In making its recommendation, the Board shall state, if possible, whether or not it finds that the criteria of the landmarks program have been met. A simple majority is required to make a recommendation of designation. The Board's recommendations are advisory.

(2) Studies submitted to the Advisory Board (or the Consulting Committee previously under the Heritage Conservation and Recreation Service) before the effective date of these regulations need not be resubmitted to the Advisory Board. In such instances, if a property appears to qualify for designation, NPS will provide notice and a copy of the study report to the parties as specified in paragraphs (d)(2) and (3) of this section and will provide at least 30 days in which to submit written comments and to provide an opportunity for owners to concur in or object to the designation.

(3) The Director reviews the study report and the Advisory Board rec-

ommendations, certifies that the procedural requirements set forth in this section have been met and transmits the study reports, the recommendations of the Advisory Board, his recommendations and any other recommendations and comments received pertaining to the properties to the Secretary.

(f) The Secretary reviews the nominations, recommendations and any comments and, based on the criteria set forth herein, makes a decision on National Historic Landmark designation. Properties that are designated National Historic Landmarks are entered in the National Register of Historic Places, if not already so listed.

(1) If the private owner or, with respect to districts or individual properties with multiple ownership, the majority of such owners have objected to the designation by notarized statements, the Secretary shall not make a National Historic Landmark designation but shall review the nomination and make a determination of its eligibility for National Historic Landmark designation.

(2) The Secretary may thereafter designate such properties as National Historic Landmarks only upon receipt of notarized statements from the private owner (or majority of private owners in the event of a district or a single property with multiple ownership) that they do not object to the designation.

(3) The Keeper may list in the National Register properties considered for National Historic Landmark designation which do not meet the National Historic Landmark criteria but which do meet the National Register criteria for evaluation in 36 CFR part 60 or determine such properties eligible for the National Register if the private owners or majority of such owners in the case of districts object to designation. A property determined eligible for National Historic Landmark designation is determined eligible for the National Register.

(g) Notice of National Historic Landmark designation, National Register listing, or a determination of eligibility will be sent in the same manner as specified in paragraphs (d)(2) and (3) of this section. For properties which are determined eligible the Advisory

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Council will also be notified. Notice will be published in the FEDERAL REGISTER.

(h)(1) The Secretary may designate a National Historic Landmark without Advisory Board review through accelerated procedures described in this section when necessary to assist in the preservation of a nationally significant property endangered by a threat of imminent damage or destruction.

(2) NPS will conduct the study and prepare a study report as described in paragraph (c)(4) of this section.

(3) If a property appears to qualify for designation, the National Park Service will provide notice and a copy of the study report to the parties specified in paragraphs (d)(2) and (3) and will allow at least 30 days for the submittal of written comments and to provide owners of private property an opportunity to concur in or object to designation as provided in paragraph (d)(5) of this section except that the commenting period may be less than 60 days.

(4) The Director will review the study report and any comments, will certify that procedural requirements have been met, and will transmit the study report, his and any other recommendations and comments pertaining to the property to the Secretary.

(5) The Secretary will review the nomination and recommendations and any comments and, based on the criteria set forth herein, make a decision on National Historic Landmark designation or a determination of eligibility for designation if the private owners or a majority of such owners of historic districts object.

(6) Notice of National Historic Landmark designation or a determination of eligibility will be sent to the same parties specified in paragraphs (d)(2) and (3) of this section.

§ 65.6 Recognition of National Historic Landmarks.

(a) Following designation of a property by the Secretary as a National Historic Landmark, the owner(s) will receive a certificate of designation. In the case of a district, the certificate will be delivered to the chief elected local official or other local official, or to the chief officer of a private organi-

zation involved with the preservation of the district, or the chief officer of an organization representing the owners of the district, as appropriate.

(b) NPS will invite the owner of each designated National Historic Landmark to accept, free of charge, a landmark plaque. In the case of a district, the chief elected local official or other local official, or the chief officer of an organization involved in the preservation of the district, or chief officer of an organization representing the owners of the district, as appropriate, may accept the plaque on behalf of the owners. A plaque will be presented to properties where the appropriate recipient(s) (from those listed above) agrees to display it publicly and appropriately.

(c) The appropriate recipient(s) may accept the plaque at any time after designation of the National Historic Landmark. In so doing owners give up none of the rights and privileges of ownership or use of the landmark property nor does the Department of the Interior acquire any interest in property so designated.

(d) NPS will provide one standard certificate and plaque for each designated National Historic Landmark. The certificate and plaque remain the property of NPS. Should the National Historic Landmark designation at any time be withdrawn, in accordance with the procedures specified in § 65.9 of these rules, or should the certificate and plaque not be publicly or appropriately displayed, the certificate and the plaque, if issued, will be reclaimed by NPS.

(e) Upon request, and if feasible, NPS will help arrange and participate in a presentation ceremony.

§ 65.7 Monitoring National Historic Landmarks.

(a) NPS maintains a continuing relationship with the owners of National Historic Landmarks. Periodic visits, contacts with State Historic Preservation Officers, and other appropriate means will be used to determine whether landmarks retain their integrity, to advise owners concerning accepted preservation standards and techniques and to update administrative records on the properties.

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(b) Reports of monitoring activities form the basis for the annual report submitted to Congress by the Secretary of the Interior, as mandated by section 8, National Park System General Authorities Act of 1970, as amended (90 Stat. 1940, 16 U.S.C. 1a-5). The Secretary's annual report will identify those National Historic Landmarks which exhibit known or anticipated damage or threats to their integrity. In evaluating National Historic Landmarks for listing in the report, the seriousness and imminence of the damage or threat are considered, as well as the integrity of the landmark at the time of designation taking into account the criteria in § 65.4.

(c) As mandated in section 9, Mining in the National Parks Act of 1976 (90 Stat. 1342, 16 U.S.C. 1980), whenever the Secretary of the Interior finds that a National Historic Landmark may be irreparably lost or destroyed in whole or in part by any surface mining activity, including exploration for, removal or production of minerals or materials, the Secretary shall (1) notify the person conducting such activity of that finding;

(2) Submit a report thereon, including the basis for his finding that such activity may cause irreparable loss or destruction of a National Historic Landmark, to the Advisory Council; and

(3) Request from the Council advice as to alternative measures that may be taken by the United States to mitigate or abate such activity.

(d) Monitoring activities described in this section, including the preparation of the mandated reports to Congress and the Advisory Council are carried out by NPS regional offices under the direction of the Preservation Assistance Division, NPS [Address: Chief, Resource Assistance Division, National Park Service, 440 G Street NW, Washington, DC 20243] in consultation with the History Division, NPS.

§ 65.8 Alteration of National Historic Landmark boundaries.

(a) *Two justifications exist for enlarging the boundary of a National Historic Landmark:* Documentation of previously unrecognized significance or professional error in the original des-

ignation. Enlargement of a boundary will be approved only when the area proposed for addition to the National Historic Landmark possesses or contributes directly to the characteristics for which the landmark was designated.

(b) *Two justifications exist for reducing the boundary of a National Historic Landmark:* Loss of integrity or professional error in the original designation. Reduction of a boundary will be approved only when the area to be deleted from the National Historic Landmark does not possess or has lost the characteristics for which the landmark was designated.

(c) A proposal for enlargement or reduction of a National Historic Landmark boundary may be submitted to or can originate with the History Division, NPS. NPS may restudy the National Historic Landmark and subsequently make a proposal, if appropriate, in the same manner as specified in § 65.5 (c) through (h). In the case of boundary enlargements only those owners in the newly nominated but as yet undesignated area will be notified and will be counted in determining whether a majority of private owners object to listing.

(d)(1) When a boundary is proposed for a National Historic Landmark for which no specific boundary was identified at the time of designation, NPS shall provide notice, in writing, of the proposed boundary to (i) the owner(s); (ii) the appropriate State official; (iii) the chief elected local official; (iv) the Members of Congress who represent the district and State in which the landmark is located, and (v) if the property is located on an Indian reservation, the chief executive officer of the Indian tribe, and shall allow not less than 30 nor more than 60 days for submitting written comments on the proposal. In the case of a landmark with more than 50 owners, the general notice specified in § 65.5(d)(3) will be used. In the case of National Historic Landmark districts for which no boundaries have been established, proposed boundaries shall be published in the FEDERAL REGISTER for comment and be submitted to the Committee on Energy and Natural Resources of the United States Senate and to the Committee on Interior and

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Insular Affairs of the United States House of Representatives and not less than 30 nor more than 60 days shall be provided for the submittal of written comments on the proposed boundaries.

(2) The proposed boundary and any comments received thereon shall be submitted to the Associated Director for National Register Programs, NPS, who may approve the boundary without reference to the Advisory Board or the Secretary.

(3) NPS will provide written notice of the approved boundary to the same parties specified in paragraph (d)(1) of this section and by publication in the FEDERAL REGISTER.

(4) Management of the activities described in paragraphs (d)(1), (2), and (3) of this section is handled by the National Register of Historic Places, NPS, [Address: National Register of Historic Places, National Park Service, Department of the Interior, Washington, DC 20240].

(e) A technical correction to a boundary may be approved by the Chief, History Division, without Advisory Board review or Secretarial approval. NPS will provide notice, in writing, of any technical correction in a boundary to the same parties specified in (d)(1).

§ 65.9 Withdrawal of National Historic Landmark designation.

(a) National Historic Landmarks will be considered for withdrawal of designation only at the request of the owner or upon the initiative of the Secretary.

(b) Four justifications exist for the withdrawal of National Historic Landmark designation:

(1) The property has ceased to meet the criteria for designation because the qualities which caused it to be originally designated have been lost or destroyed, or such qualities were lost subsequent to nomination, but before designation;

(2) Additional information shows conclusively that the property does not possess sufficient significance to meet the National Historic Landmark criteria;

(3) Professional error in the designation; and

(4) Prejudicial procedural error in the designation process.

(c) Properties designated as National Historic Landmarks before December 13, 1980, can be dedesignated only on the grounds established in paragraph (a)(1) of this section.

(d) The owner may appeal to have a property dedesignated by submitting a request for dedesignation and stating the grounds for the appeal as established in subsection (a) to the Chief, History Division, National Park Service, Department of the Interior, Washington, DC 20240. An appellant will receive a response within 60 days as to whether NPS considers the documentation sufficient to initiate a restudy of the landmark.

(e) The Secretary may initiate a restudy of a National Historic Landmark and subsequently a proposal for withdrawal of the landmark designation as appropriate in the same manner as a new designation as specified in § 65.5 (c) through (h). Proposals will not be submitted to the Advisory Board if the grounds for removal are procedural, although the Board will be informed of such proposals.

(f)(1) The property will remain listed in the National Register if the Keeper determines that it meets the National Register criteria for evaluation in 36 CFR 60.4, except if the property is redesignated on procedural grounds.

(2) Any property from which designation is withdrawn because of a procedural error in the designation process shall automatically be considered eligible for inclusion in the National Register as a National Historic Landmark without further action and will be published as such in the FEDERAL REGISTER.

(g)(1) The National Park Service will provide written notice of the withdrawal of a National Historic Landmark designation and the status of the National Register listing, and a copy of the report on which those actions are based to (i) the owner(s); (ii) the appropriate State official; (iii) the chief elected local official; (iv) the Members of Congress who represent the district and State in which the landmark is located; and (v) if the landmark is located on an Indian reservation, the chief executive officer of the Indian tribe. In the case of a landmark with

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more than 50 owners, the general notice specified in § 65.5(d)(3) will be used.

(2) Notice of withdrawal of designation and related National Register listing and determinations of eligibility will be published periodically in the FEDERAL REGISTER.

(h) Upon withdrawal of a National Historic Landmark designation, NPS will reclaim the certificate and plaque, if any, issued for that landmark.

(i) An owner shall not be considered as having exhausted administrative remedies with respect to dedesignation of a National Historic Landmark until after submitting an appeal and receiving a response from NPS in accord with these procedures.

submission to the National Park System Advisory Board will be considered by the Director, the Advisory Board and the Secretary, as appropriate, in the designation process.

(d) No person shall be considered to have exhausted administrative remedies with respect to failure to designate a property a National Historic Landmark until he or she has complied with the procedures set forth in this section.

§ 65.10 Appeals for designation.

(a) Any applicant seeking to have a property designated a National Historic Landmark may appeal, stating the grounds for appeal, directly to the Director, National Park Service, Department of the Interior, Washington, DC 20240, under the following circumstances:

Where the applicant—

(1) Disagrees with the initial decision of NPS that the property is not likely to meet the criteria of the National Historic Landmarks Program and will not be submitted to the Advisory Board; or

(2) Disagrees with the decision of the Secretary that the property does not meet the criteria of the National Historic Landmarks Program.

(b) The Director will respond to the appellant within 60 days. After reviewing the appeal the Director may:

(1) Deny the appeal;

(2) Direct that a National Historic Landmark nomination be prepared and processed according to the regulations if this has not yet occurred; or

(3) Resubmit the nomination to the Secretary for reconsideration and final decision.

(c) Any person or organization which supports or opposes the consideration of a property for National Historic Landmark designation may submit an appeal to the Director, NPS, during the designation process either supporting or opposing the designation. Such appeals received by the Director before the study of the property or before its