

Cache Creek Bridge
Spanning Cache Creek, south of Dam Road
Clear Lake
Lake County
California

HAER No. CA-49

HAER
CAL,
17 - CLEAR,
1 -

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Western Region
Department of the Interior
San Francisco, California 94102

HISTORIC AMERICAN ENGINEERING RECORD

Cache Creek Bridge HAER No. CA-49

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Location: East of State Highway 53, immediately south of Dam Road, spanning Cache Creek at the southern edge of the City of Clear Lake, Lake County, California

U.S.G.S.
Universal Transverse Mercator coordinates:
10.385550.1223660

Date of Construction: 1909

Fabricator: Clinton Bridge and Iron Works

Present Owner: Lake County Public Works Department
255 North Forbes Street
Lakeport, California 95433

Present Use: Vehicular bridge
to be removed

Significance: The Cache Creek Bridge is one of two known remaining examples of Clinton bridges in California. It is also the last remaining through truss highway bridge in Lake County. It represents a type (Parker through truss), period (early 20th century), and method of construction (pin-connected steel truss). The bridge was determined eligible for inclusion on the National Register of Historic Places in December 1983.

Report
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Date: November 1985

The Cache Creek Bridge was constructed over Cache Creek in 1909 to replace an earlier wooden bridge. The Clear Lake Press noted in May 1909:

This section of the County is in great need of a new bridge. The immense volume of water running down Cache Creek this past winter reached to the floor of the present wooden bridge, which is about 90 feet in length, and the floods weakened the bridge seriously. Furthermore, the southern approach was overflowed three feet deep for a distance of several hundred feet, and the swift current made crossing hazardous and for a time impossible. With the building of a new bridge, the channel can be widened, and the approach raised so as to be above high water."¹

The new bridge was a steel Parker through truss bridge fabricated by the Clinton Bridge and Iron Works.

During their meeting of May 3-6, 1909, the Lake County Board of Supervisors proposed that a new bridge be built across Cache Creek at the site of the existing wooden bridge. Advertisements for a steel bridge, approximately 150 feet long were prepared on May 6, 1909, and County Clerk Mathews was authorized to advertise for bids. The bridge contract was awarded by Lake County to Clinton Bridge and Iron Works of Clinton, Iowa. The bridge was purchased and installed by the County for a cost of \$4,358.

The Clinton Bridge Company was begun in 1875 by Artemus Lamb with a working capital of \$25,000. The company was founded during a period when earlier timber truss bridges were being condemned and becoming technologically obsolete. The new metal bridges were light and strong, required less maintenance than wooden bridges, and were advertised as having a longer use life.

By 1897, 267 Clinton bridges were scattered throughout the West. The Clinton fabrication shops were capable of producing steel spans of up to 200 feet for single or multiple-span application.

The firm continued to prosper through the 1880s, and in 1892 George Wilson of Sterling, Illinois, bought the company, renaming it the Clinton Bridge and Iron Works. The Wilson era was one of expansion, and the company opened a San Francisco office in 1899. It was undoubtedly this local office, which operated through 1916, which handled the order for the Cache Creek Bridge and facilitated its rapid

delivery. By the first decade of the 20th century, Clinton Bridge and Iron Works regularly employed more than 200 men, and could claim literally thousands of bridges throughout the West.

In 1928, the firm shortened its name to Clinton Bridge Works, and further expanded its plant. In 1941, the company joined three other firms to form the Four V Steel Companies; in 1942 they changed the name to Allied Structural Steel Company--undoubtedly reflecting the patriotism of World War II. Affiliation with the Wilson family ended in 1964 when descendants sold their stock to Allied. The firm continues today in bridge fabrication, and also counts among its notable works involvement in the Project Apollo assembly building at Cape Canaveral in 1964.²

Construction of the Parker truss bridge over Cache Creek was begun in September 1909. The local newspaper noted: "Work on the new steel bridge across Cache Creek is being pushed right along under the direction of [construction] Supervisor Rice. A ford has been made must below the bridge which will afford passage to travel during the time the bridge is out of commission. Supervisor Adamson is closely attending the progress of the work."³ The names of the Lake County supervisors and clerk who authorized the new bridge are listed on the bridge nameplates, which read: "T. Patten, C.H.N., H.E. Cheney, J.M. Adamson, C.W. Phillips, J.S. Kelsay, S. Mathews, Co. Clerk, Clinton Bridge and Iron Work Builders, Clinton, Iowa." (See photo 4.)

The bridge was inspected by the Lake County Supervisors on October 14, 1909, "found satisfactory in every detail and accepted by the supervisors"⁴ who then attended a banquet in their honor at the Geenzier Hotel. The structure was described as being "substantially constructed throughout, and is by a wide margin the best bridge in Lake County."⁵

The bridge became a California state highway structure in 1937. A restricted speed of 5 miles per hour was posted for vehicles over 5 tons on May 19, 1937.⁶ On November 17, 1942, additional restrictions on the weight of loads that crossed the bridge were posted. Loads were restricted to:

"8 TONS PER VEHICLE
12 TONS PER SEMI-TRAILER COMBINATION
14 TONS PER TRUCK AND FULL TRAILER"

In the fall of 1944, substantial maintenance to the Cache Creek Bridge was conducted by the State of California

Transportation Department. Three thousand three hundred and fifty dollars was authorized under Work Order No. 41WL6 for repairs to the bridge. The former wearing surface, floor, wheel guards, and other timber members were removed and replaced with salt-treated fir and a new oil macadam wearing surface.

In 1952, the bridge was relinquished to Lake County, and State Highway 53, which is about half a mile west of the bridge, became the main state highway route. In 1977, the Cache Creek Bridge was again picked up by the State of California Department of Transportation, this time as a Federal-Aid Secondary route.

The Cache Creek Bridge crosses Cache Creek at a right angle (west of north). The bridge is a pin-connected steel Parker through truss bridge. The structure consists of a single span, 152 feet in length, 18.4 feet in width, with a 14.7-foot one-lane roadway between timber curbs (wheel guards) and light lattice steel railings (see photos 1 through 3). Bridge nameplates that commemorate the bridge's construction date and the county officials involved in its erection are located on each end of the bridge (see photo 4). The bridge is decked with treated Douglas fir planks (6 inches x 1-3/4 inches) with 6-inch centers, laid diagonally on transverse treated Douglas fir planks (12-1/2 inches x 2-3/4 inches) spaced 2 inches apart having 14-1/2-inch centers. The deck has a 1-1/2-inch asphalt wearing surface between untreated Douglas fir wheel guards (see photo 5).

The wheel guards consist of 7-inch x 7-inch untreated Douglas fir timbers with 3-1/2-inch scupper blocks. The bridge has seven I-beam stringers, similar to Carnegie B14x12.5#, with the exterior channels being similar to Carnegie C7x8.2#. The bridge floor beams are Illinois I type (similar to Carnegie B9x32.8#) located at each of the panel points. The top flange is laterally supported at each stringer by means of bolts. The end connections have four 3/4-inch-diameter rivets in double shear. (See photos 6 through 9). The structure is supported on concrete-filled cylinder abutments with a concrete diaphragm between the cylinders (see photos 10 through 12). A masonry wall is located in front of the northwest abutments.

The bridge has a vertical clearance of 12 feet 10 inches at the deck edge and 13 feet 7 inches at 2 feet from the deck edge.

The trusses consist of ten panels set 15 feet apart for a span of 150 feet. The fourth panels are 24 feet from upper panel point center pin to lower panel point center pin. The

second panels are 21 feet from upper panel point center pin (see photos 13-14) to lower panel point center pin. The first panels are 17 feet from upper panel point pin to lower panel point pin. The end posts and top chords consist of a 14-inch-wide by 1/4-inch-thick top plate on two channels (similar to Carnegie C5x11.5#) with a single lacing on the bottom made up of 1-1/2-inch by 1/4-inch bars.

Table 1 contains a detailed description of the truss members.

The Cache Creek Bridge will be replaced by a new two-lane bridge. Lake County will matchmark, dismantle, and truck the bridge to the Lake County Southshore storage yard. The County will attempt to identify a party, through advertising for a period of 30 days if necessary, that will relocate, reconstruct, and maintain the bridge in accordance with "The Secretary of the Interior's Standards for Rehabilitating Historic Buildings." If a recipient for the bridge cannot be found in the time specified, final disposal of the structure and its part may occur.

Table 1
 CACHE CREEK BRIDGE TRUSS MEMBERS

Location	Description	Total ^a
Lower panel point 0 to lower panel point 2	2-1/2-inch by 13/16-inch I-bar	2
Lower panel point 2 to lower panel point 4	4-inch by 3/4-inch I-bar	2
Lower panel point 4 to lower panel point 6	4-inch by 15/16-inch I-bar	2
Upper panel point 1 to lower panel point 1	2-7/16-inch by 5/8-inch I-bar	2
Upper panel point 2 to lower panel point 2	Two 5-3/8-inch base to base channel (similar to Carnegie C8x6.7#) with single lacing on top and bottom	2

^aFor one side of the bridge.

Table 1 (continued)

Location	Description	Total ^a
Upper panel point 4 to lower panel point 4	Two 5-3/8-inch base to base channel (similar to Carnegie C8x6.7#) with single lacing on top and bottom	2
Upper panel point 3 to middle panel point 3	Two 2-inch by 2-inch by 1/4-inch angles, 9 inches base to base	2
Upper panel point 5 to middle panel point 5	Two 2-inch by 2-inch by 1/4-inch angles, 9 inches base to base (see photo 15)	1
Middle panel point 3 to lower panel point 3	Single channel (similar to Carnegie C7x8.2#)	2
Middle panel point 5 to lower panel point 5	Single channel (similar to Carnegie C7x8.2#)	1
Upper panel point 1 to lower panel point 2	2-1/2-inch by 5/8-inch I-bar	2
Upper panel point 2 to middle panel point 3	2-1/2-inch by 3/4-inch I-bar	2
Middle panel point 3 to lower panel point 4	2-inch by 5/8-inch I-bar	2
Upper panel point 4 to lower panel point 5	2-inch by 5/8-inch I-bar	2
Middle panel point 3 to upper panel point 4	1-inch square rod with upset threads and turn buckle	2
Lower panel point 4 to middle panel point 4	1-inch square rod with upset threads and turn buckle	2

^aFor one side of the bridge.

Source: Frank C. Heggli. Bridge Report: Revised Original Report Bridge No. 14C-24. (On file at Caltrans, Sacramento, California), 4.

ENDNOTES

1. "Supervisors Plan New Steel Bridge," The Clear Lake Press, 8 May 1909, p. 1.
2. John W. Snyder, "An Evaluation of Cache Creek Bridge on Lake Street, FAS V102 Lake County, California" in Cache Creek Bridge Replacement, Lake County, California Environmental Assessment (Sacramento, California: CH2M HILL), B-3.
3. "Lower Lake New Steel Bridge Progressing," The Clear Lake Press, 11 September 1909, p. 5.
4. "Supervisors Accept Cache Creek Bridge." The Lake County Bee, 21 October 1909, p. 1.
5. Ibid.
6. Frank C. Heggli, Bridge Report: Revised Original Report Bridge No. 14C-24. (On file at Caltrans, Sacramento, California), 3.
7. Ibid., 3.
8. Albert A. Lernhart. Supplementary Bridge Report, Cache Creek Bridge I-Lak-49-C (On file at Caltrans, Sacramento, California), 1.

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