

OLD HAPPY ISLES BRIDGE
Yosemite National Park Roads and Bridges
Spanning Merced River on service road
Yosemite National Park
Mariposa County
California

HAER NO. CA-104

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

REDUCED COPIES OF MEASURED DRAWINGS

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
P.O. Box 37127
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HISTORIC AMERICAN ENGINEERING RECORD

OLD HAPPY ISLES BRIDGE
Yosemite National Park
HAER No. CA-104

I. INTRODUCTION

Location: The Old Happy Isles Bridge carries a park service road across the Merced River at Happy Isles in the east end of the Yosemite Valley in Yosemite National Park, Mariposa County, California.

QUAD: HALF DOME, CA
UTM: 11/274600/4179850

Date of Construction: 1921

Designer and Builder: National Park Service

Original and Present Owner: Yosemite National Park, National Park Service.

Structure Type: Reinforced concrete girder bridge

FHWA Structure No.: N/A

Present Use: Pedestrian bridge

Significance: The Old Happy Isles Bridge is a locally-rare survivor of a concrete girder bridge in Yosemite National Park. Concrete girder bridges were the prevailing form of construction in the late 1910s and early 1920s.

Project Information: Documentation of Old Happy Isles Bridge is part of the Yosemite National Park Roads and Bridges Recording Project, conducted in summer 1991 by the Historic American Engineering Record.

Richard H. Quin, Historian

II. HISTORY

This is one in a series of reports prepared for the Yosemite National Park Roads and Bridges Recording Project. HAER No. CA-117, YOSEMITE NATIONAL PARK ROADS AND BRIDGES, contains an overview history of the park roads.

HISTORY OF OLD HAPPY ISLES BRIDGE

Spanning the Merced River at Happy Isles in the upper end of the Yosemite Valley, the Old Happy Isles Bridge, erected in 1921, is a reinforced concrete girder bridge, 88'11" long with a single span of 57' 10". The bridge is supported on concrete masonry abutments. The structure is 20' 5" wide, with a clear roadway width of 15' 10"; there are no sidewalks on the bridge. Expansion hinges are constructed from metal plates and U-sections embedded in the concrete. Wing walls atop the abutment on the west end are canted out in the normal fashion, while those forming the east approach bend towards the north to meet a curve in the road. The east walls have apparently been rebuilt in plain poured concrete. Stone rip-rap has been placed along the river channel on both sides of the abutments.

The bridge has been substantially altered. Older parts of the concrete appear to have been sprayed with a gunite or stucco mixture, and the original concrete balustrade, supported by semi-circular arches, has been replaced with a railing of heavy steel pipes supported by steel I-beams. A bridge, called the "Tis-sa-ack Bridge," was located on this site as early as 1883, as it appears in Capt. George M. Wheeler's "Topographical Map of the Yosemite Valley and Vicinity" published that year.¹ In 1886, James M. Hutchings stated that it carried repetitively named "Tis-sa-ack Avenue Road" across the Merced River at this point.² "Tis-sa-ack" was the early settlers' understanding of the Yosemite Indians' name for Half Dome.

By 1909, the bridge was called the "Power House Bridge," after the electrical plant built on one of the Happy Isles by the state Board of Commissioners for the Yosemite Valley in 1902.³ In 1909, the acting superintendent of the park listed it as a wooden structure, 86' in length.⁴ The area around the bridge contained, in addition to the powerhouse, several employee residences, no longer extant. In 1927, the state built a fish hatchery here (now the Happy Isles Nature Center.)

The Power House Bridge did not remain in service long. In 1920, Park Superintendent Washington Bartlett Lewis referred to it in his annual report to the Director of the National Park Service as a "prehistoric type" of bridge in a "very marked state of decay." He found the fact that the bridge was still standing was "beyond comprehension and contrary to all laws of engineering."⁵ Funds were soon appropriated for its replacement, and in 1921 Lewis reported to Washington that the bridge had been replaced with the present reinforced concrete girder bridge.⁶

The new bridge was evidently inadequate for its intended use, and served as the main road bridge at the location for an even shorter period than its predecessor. In 1928, the National Park Service determined to erect a new stone-faced concrete arch bridge some 500 yards downstream. That bridge was constructed in 1929, and is now called the "Happy Isles Bridge" [HAER No. CA-97]. The old bridge remains, but now carries only pedestrian traffic, pack animals, and an occasional service vehicle. It also serves as the trailhead for the John Muir Trail between Yosemite Valley and Mount Whitney. This trail was built by the state, the Sierra Club, the U.S. Forest Service and the National Park Service between 1915 and 1938; the Yosemite section followed mostly existing trails.

NOTE: A river gauging station adjacent to the west end of the bridge is of some interest. The first station here was a staff gauge installed in August 1915; this was replaced in November 1916 by an automatic water-stage recorder. The recorder was housed in a 14' square enclosure supported by log pillars and topped by a hipped roof. This housing was smashed by a falling tree in April 1975, and a less distinctive gabled structure has replaced it.⁷

III. ENDNOTES

1. George M. Wheeler, "Topographical Map of the Yosemite Valley and Vicinity," U.S. Army Corps of Engineers, 10 November 1883.

2. James M. Hutchings, *In the Heart of the Sierras, the Yosemite Valley, Both Historical and Descriptive, and Scenes by the Way; the Big Tree Groves, the High Sierra, with its Magnificent Scenery, Ancient and Modern Glaciers, and Other Points of Interest, with Tables of Distances and Altitudes, Maps, Etc., Profusely Illustrated.* (Oakland, CA: Pacific Press Publishing House, 1886; reprint, Lafayette, CA: Great West Books, 1990), 392.

3. Linda Wedel Greene, *Yosemite, The Park and Its Resources: A History of the Discovery, Management, and Physical Development of Yosemite National Park, California.* 3 vols. (Washington: National Park Service, 1987), I:416.

4. Ehrnbeck, A. R., 1st Lt, "Report on Roads, Trails, and Engineering Structures," in William W. Forsyth, Major, 6th Cavalry, "Report of the Acting Superintendent of the Yosemite National Park," 15 October 1909, in *Reports of the Department of the Interior, 1909* (Washington: Government Printing Office, 1910), 434.

5. Washington B. Lewis, Park Superintendent's Report in "Report of the Director of the National Park Service to the Secretary of the Interior, 1920." *Reports of the Department of the Interior, 1920* (Washington, D.C.: Government Printing Office, 1920), 252. Lewis applied these comments to the Yosemite Creek Bridge as well.

6. Idem, Superintendent's Report in *Annual Report of the Director of the National Park Service to the Secretary of the Interior, 1921* (Washington: Government Printing Office, 1921), 200.

7. Greene, II:723-25.

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