

Mosquito Road at South Fork American River Bridge Replacement

El Dorado, California

Project Description

The new Mosquito Road Bridge will span the South Fork of the American River to improve the connection to and better serve the nearby residents of Eldorado County, CA. The bridge will tower 375' over the existing 142' one-way wooden suspension bridge at the base of the gorge completed in 1939. The new bridge consists of a 3-span 1180' variable depth post-tensioned concrete box girder segmental superstructure supported by two 200' main hollow piers. A cast-in-place balanced cantilever method using form travelers is used to construct the superstructure. Each footing is carved into the steep mountain sides on each side of the river gorge. Large 1,100cy single continuous concrete pours are assisted by onsite batch plants. When complete in 2026, the existing aging bridge will be repurposed as a pedestrian and bicycle crossing.

Owner

El Dorado County Department of Transportation, a division of Caltrans

Contractor

Shimmick Construction

Designer

SYSTRA IBT in partnership with Quincy Engineering, Inc.

Our Role

MBJ provided engineering services including construction analysis, integrated shop drawings, geometry control systems, and erection manuals pre-construction and performed coordination of these services during in-progress accelerated bridge construction. MBJ also provided design and analysis for erection equipment and temporary works including falsework, rebar guying systems, closure engineering, and form traveler analysis.

Total Contract Value

\$74M

Timeline

2022-2026

Construction Method and Specifications

The superstructure consists of 1,180' of variable depth (12'-30') post-tensioned concrete box girders. A cast-in-place balanced cantilever construction method is used with form travelers to cast 68 total segments. A 536' main span peaks at 375' above the river gorge below and spans 2 each 200' hollow main piers on 60'x60'x9' footings with CDIH piles in the mountain sides.

