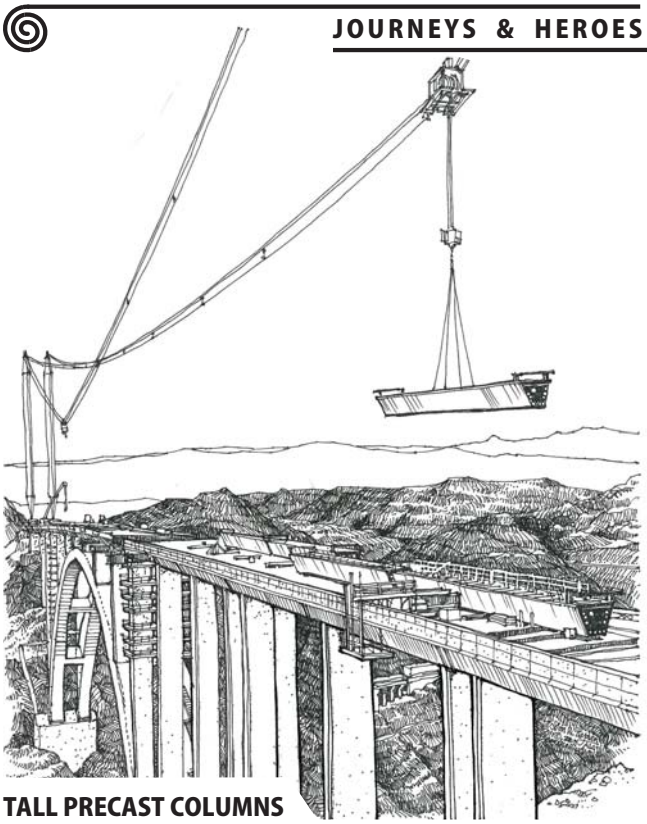


TALL PRECAST COLUMNS

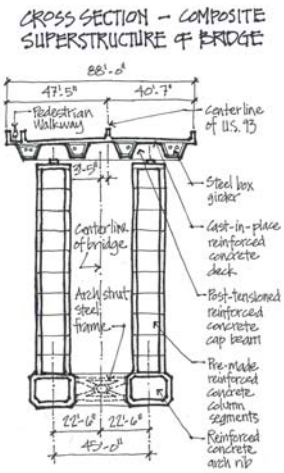
The 290-foot-high approach columns at the River Bridge were the world's tallest precast concrete columns at the time of their construction.

The contractor transported the ten-foot-tall, precast concrete column segments by truck to the staging area of the cableway system. Crews attached temporary platforms to the sides of each segment for worker access when it arrived in its place on the bridge. These huge hollow "building blocks" were stacked up and firmly connected to form the paired approach columns standing on the canyon walls and the spandrel columns bearing on the twin-rib arch.

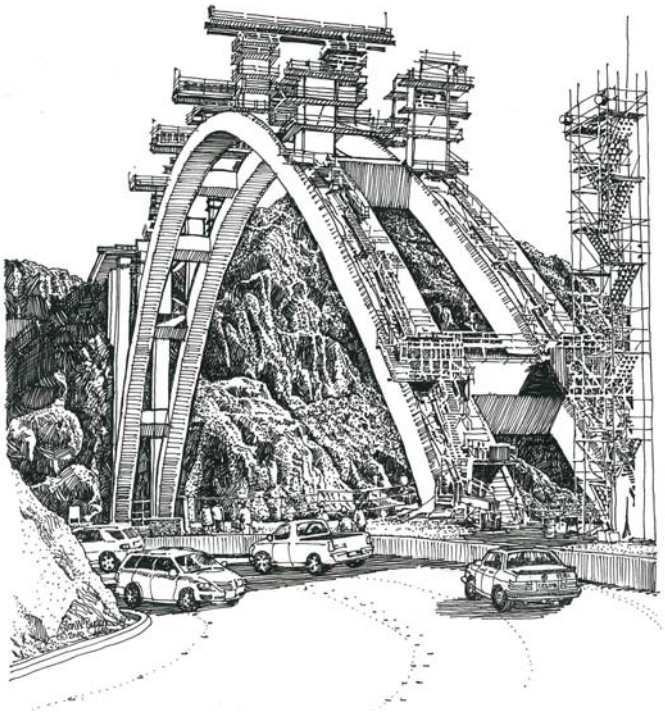
ROADWAY FRAMING & DECK

This efficient bridge design that combines steel and concrete members does the same work as would an all-concrete bridge but at a much lighter weight. It also eliminates many braces between columns that would clutter the clean look of the bridge.

An enormous concrete cap beam tops each pair of precast columns. Four pre-made steel box girders are connected between the concrete cap beams. The roadway deck slab spans across the girders. The deck slab and girders not only support the load of vehicles but also brace the tall concrete columns against wind and earthquake.



RAISE THE ROAD
on Columns & Deck



EFFICIENT CONSTRUCTION METHODS

To meet an aggressive construction schedule, the contractor premade many of the River Bridge parts while the foundations were being built.

The fast-track construction method allowed premade components of the arch, columns and deck to be ready for installation the moment the contractor needed them. By making large structural parts at off-site work yards, the project needed fewer construction workers on the bridge. A giant cableway system spanning the canyon high above the River Bridge delivered the large structural parts to their finished locations.

Concrete workers cast column segments nearby while excavators cut rock shelves into the steep canyon walls. When the foundations and the arch were finished, the column segments were ready to install. This process was economical and efficient.