

# CASE STUDY

Rio Chico Bridge

David, Panama

Installer: Ram Jack of Panama • Panama City • 507.237.2084



## Situation:

The Rio Chico Bridge, located on the main arterial road for Panama, had a column settle 4 ½ inches. The Rio Chico River has the fifth highest velocity in the world. It was imperative that piles were installed before rainy season. A couple of things that were tried were rerouting the river and adding a gravity wall to protect the bridge columns. However, water got behind the gravity wall which undermined one side of the gravity wall and approach. The bridge was forced to close. After exposing the footer, it was discovered that a large portion was missing.

## Solution:

Ten 3 ½ inch diameter piles were installed on the column. Access holes were cored through the existing footing, and the column was raised 4 ½ inches. Reinforcement was placed and epoxy grouted into the existing footer. Grout was also pumped into void space under the footer. The torsion cracks were generated from the settlement of the adjacent column.

## Conclusion:

Structural repairs were required. A mat foundation was placed connecting the two columns. Special brackets were designed and cast into the mat. Thirteen 3 ½ inch diameter piles were installed in the mat. Eight of these were battered.

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