

# LOADTEST

## O-Cell<sup>®</sup> Testing of Bridge Foundations



*My Thuan, Vietnam*  
Designer: Maunsell, Contractor: Bilfinger + Berger



*Hwy #82 Greenville Mississippi, USA*  
Designers: HNTB Corp, Contractors: Massman Traylor Bros.



*SuTong, China*  
Design: China Highway Planning and Design Institute, Consultants Inc. (Beijing)



*New Millennium Bridge over the Panama Canal*  
Designers T. Y. Lin International  
Contractor: Bilfinger + Berger



*Cooper River Bridge in Charleston*  
South Carolina Department of Transportation  
and Parsons Brinckerhoff, Trevlcos Corporation  
and Case Atlantic Co

The O-cell method for testing the foundation capacity of bridge piers provides numerous advantages over traditional top-down loading arrangements.

As the technology for drilled shafts/piles develops and larger loads are demanded from each foundation element, the need to verify these design capacities is increased.

These photos are just a small selection of some of the world class crossings that have successfully used our O-cell technology to test the foundation elements.

### ADVANTAGES

A key benefit of using bi-directional testing is the elimination of additional anchor piles or external reaction systems. The O-cell method allows one portion of the pile to react against the other during loading.

In ground conditions where the end bearing may be comparable or greater than the friction, the O-cell may be located at the bottom of the pile and the test will measure end bearing and friction; directly and independently.

The O-cell method is particularly advantageous over water or in congested construction areas. Additionally, our method is not only applicable for preliminary expendable test piles, but also allows for the integrity of working test piles to be restored and subsequently integrated into the structure as working piles.

### APPLICATIONS

The O-cell method is well suited for any size and capacity drilled shaft or pile, for tests both on land and off-shore. Typical loads encountered using the O-cell method exceed 5,000 tons and can reach levels greater than 18,000 tons for some bridges.