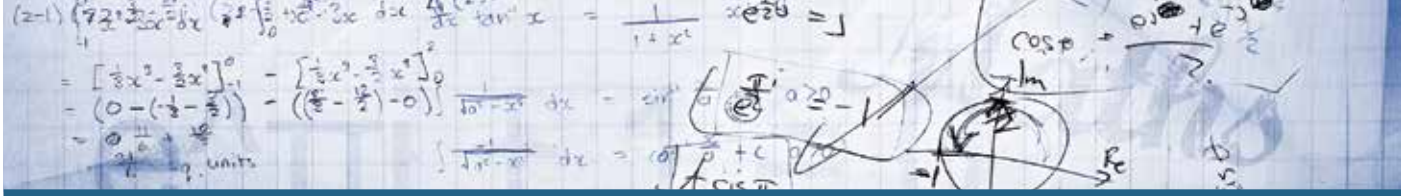

Discussion

Precast concrete, steel-braced, hybrid pipe rack structures

Regarding "Precast Concrete, Steel-Braced, Hybrid Pipe Rack Structures"[1] by Sebastián F. Vaquero, Damián R. Correa, and Sergio F. Wolkomirski in the Fall 2013 issue of *PCI Journal*, how will the socket fixing of the column avoid brittle failure at the socket joint?

Devendra Joshi

Authors' response

As stated in *NEHRP Recommended Seismic Provisions for New Buildings and Other Structures*,[2] FEMA P-750 2009 edition: "Most structural systems have some components or limit states that cannot provide reliable inelastic response or energy dissipation. Such components or limit states must be designed considering that the actual forces in the structure will be larger than those at first significant yield. The standard specifies an overstrength factor, Ω_o, to amplify the prescribed forces for use in design of such components or limit states. This specified overstrength factor is neither an upper nor a lower bound; it is simply an approximation specified to provide a nominal degree of protection against undesirable behavior."

Having this concept in mind, we designed the socket foundation to remain elastic by using the seismic load effect with an overstrength factor Ω_o of 3.0 (transverse direction) and 2.5 (longitudinal direction).

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References

1. Vaquero, Sebastián F., Damián R. Correa, and Sergio F. Wolkomirski. 2013. "Precast Concrete, Steel-Braced, Hybrid Pipe Rack Structures." *PCI Journal* 58 (4): 55–67.
2. Building Seismic Safety Council of the National Institute of Building Sciences. 2009. *NEHRP Recommended Seismic Provisions for New Buildings and Other Structures*. FEMA P-750. Washington, DC: Federal Emergency Management Agency.

Errata

On page 98 under "Specimen Design and Construction" in "Comparison of Details for Controlling End-Region Cracks in Precast, Pretensioned Concrete I-Girders" in the Spring 2014 issue of *PCI Journal*, it should read " ... specimen LB had 27% more end reinforcement by area than CT." on page 106: last line it states: ...specimen LB had 27% more end-region reinforcement than the control specimen....."

In Fig. 10 on page 121 of "Analytical Investigation and Monitoring of End-Zone Reinforcement of the Alaskan Way Viaduct Super Girders" in the Spring 2014 issue of *PCI Journal*, the top dimension should be "h/2."

We regret the errors.

Comments?

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