

Bridge Design Memorandum

To: Bridge Design
From: NJA/sww
Date: 2/12/2013
Re: Use of Struts/Collars

As per NJA and JMW, to reduce unsupported column and pile lengths, struts/collars should be considered on all bents with unsupported column or pile lengths between 30 and 40 ft. Struts/collars *shall* be required on all bents with unsupported column or pile lengths greater than 40 ft. Unsupported lengths shall be calculated from the 100 year scour line for hydraulic bridges and the ground line for grade separations. Struts/collars shall not be placed below the ground line and should be located to optimize effectiveness.

In seismic zones where struts/collars should be considered, bents should be analyzed with and without the strut/collar. The use of struts/collars in seismic zones will be decided on a case-by-case basis after this analysis.

Strut – reinforced cast-in-place member cast between or integral with elements (Typically located between columns of a multicolumn bent)

Collar – reinforced cast-in-place member cast around elements (Typically located around piles)