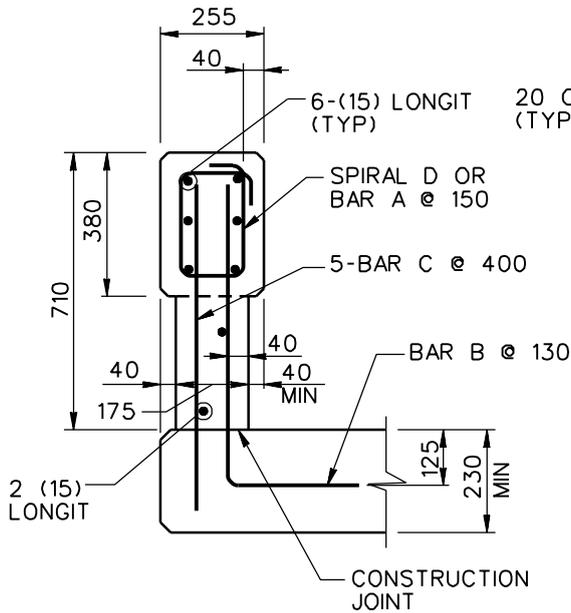
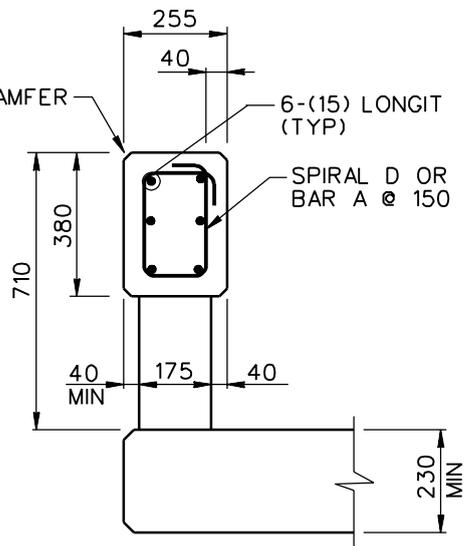


**ELEVATION**



**SECTION THRU POST**



**SECTION THRU RAIL**

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**OPEN-PROFILE CONCRETE BRIDGE RAILING**

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### INTENDED USE

This system is a concrete post-and-beam AASHTO Performance Level 1 bridge railing modeled on several state designs. This particular version was derived from the Texas T202 bridge railing listed as system 2 in the 1990 FHWA memorandum on crash-tested bridge railings. It is similar to the modified Kansas Corral and the Oklahoma bridge railing listed as systems 9 and 10 in the 1986 FHWA memorandum on crash-tested bridge railings.

This drawing and specification address only the bridge railing and not the design or detailing of the bridge deck. Only reinforcement directly related to the bridge rail is shown. Bridge decks should be designed to develop the full strength of the bridge railing.

### COMPONENTS

Concrete shall develop a minimum 28-day strength of not less than 28 MPa. The concrete shall use a cement conforming to AASHTO M85 (ASTM C150) Type I or II. Reinforcing steel shall be Grade 400 MPa and shall conform to either of the following:

- (a) Epoxy-coated deformed bars as specified in AASHTO M284M (ASTM D3963M).
- (b) AASHTO M31M (ASTM A615M) deformed and plain billet steel reinforcing bars for use with calcium nitrite corrosion inhibitor (30% calcium nitrite solution).

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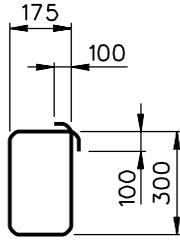
SHEET NO.

DATE

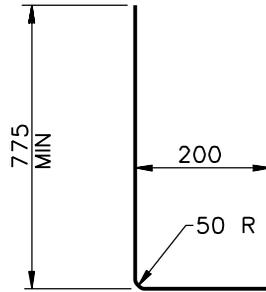
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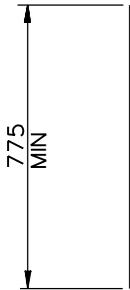




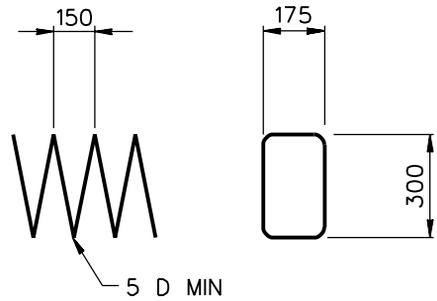
BAR A (10)



BAR B (15)



BAR C (15)



SPIRAL D (10)

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## REFERENCES

T.O. Willett, *Crash Tested Bridge Rails*, Memorandum to Regional FHWA Administrators, Federal Highway Administration, Washington, D.C., August 13, 1990.

T. J. Hirsch, C. E. Buth, Wanda L. Campise, and Darrell Kaderka, "*Crash Test of Texas T202 Bridge Rail*", Report No. FHWA-TX-88/89-1179-2F, Texas State Dept. of Highways & Public Transportation, Austin, TX, May 1989.

M.E. Bronstad, J.D. Michie, L.R. Calcote, K.L. Hancock, J.B. Mayer, Jr., *Bridge Rail Designs and Performance Standards (Volume 1: Research Report)*, Federal Highway Administration, FHWA-RD-87-049, Washington, D.C., 1987.

R.D. Morgan, *Bridge Rails*, Memorandum to Regional FHWA Administrators, Federal Highway Administration, Washington, D.C., August 28, 1986.

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