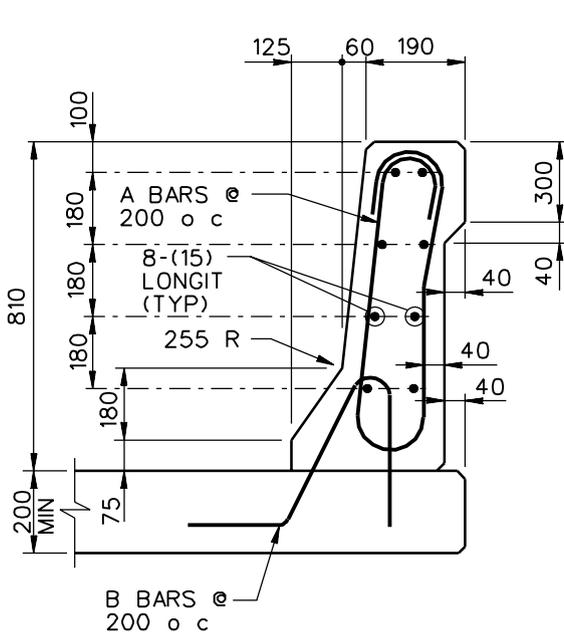
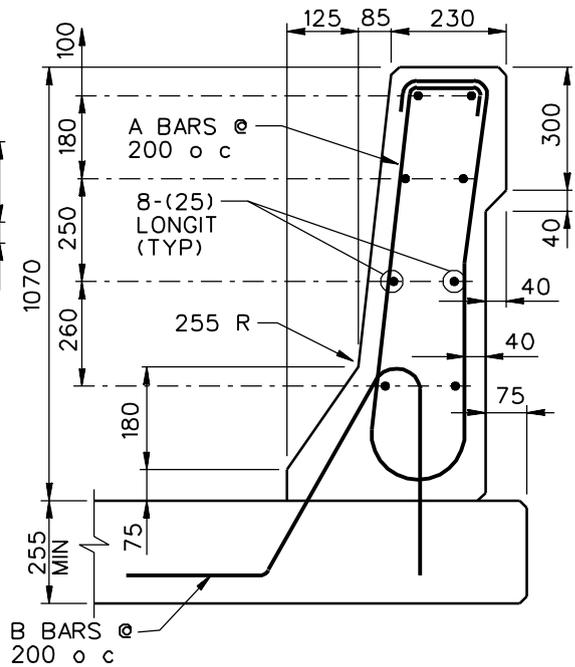


**ELEVATION**



**SBC04b**



**SBC04c**

1994

**F SHAPE CONCRETE BRIDGE RAILINGS**

**SBC04b-c**

SHEET NO.

REF. NO.

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### INTENDED USE

The safety shaped barriers have been among the most popular and versatile concrete bridge railings used throughout the United States. Systems SBC04b-c are commonly known as the F shape barrier and are listed as systems 19 and 23 in the 1990 FHWA memorandum on crash-tested bridge rails. SBC04b is an AASHTO Performance Level 2 system and SBC04c is a Performance Level 3 system. The hooked deck bars and overhangs shown in these drawings are strongly recommended so that adequate development length is available in the transverse deck bars especially if epoxy coated bars are used. The details shown have been successfully crash tested.

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).

### REFERENCES

C.E. Buth and T.J. Hirsch, *Testing of New Bridge Rail and Transition Designs*, Federal Highway Administration, Report No. FHWA-RD-93-058, Washington, D.C., 1993.

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

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.

## F SHAPE CONCRETE BRIDGE RAILINGS

# SBC04b-c

SHEET NO.

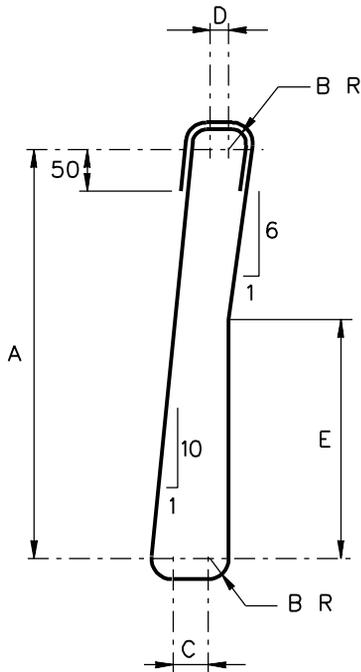
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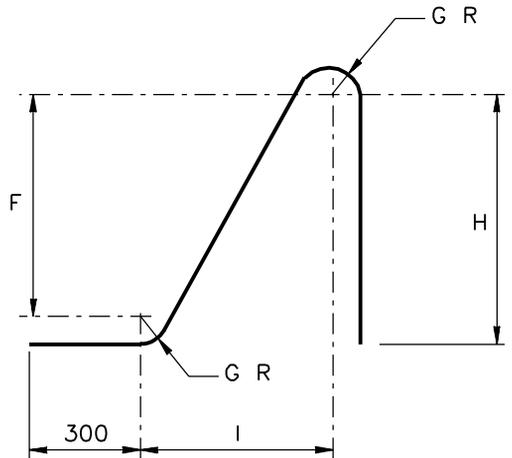
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SYSTEM	A	B	C	D	E	F	G	H	I
SBC04b	620	60	25	0	380	275	50	340	262
SBC04c	850	65	90	25	620	285	75	370	320



**BAR A (15)**



**BAR B (15)**

1994

## F-SHAPE CONCRETE BRIDGE RAILINGS

SBC04b-c

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