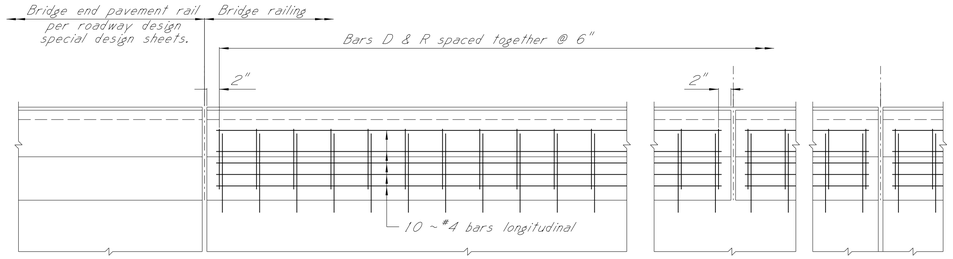
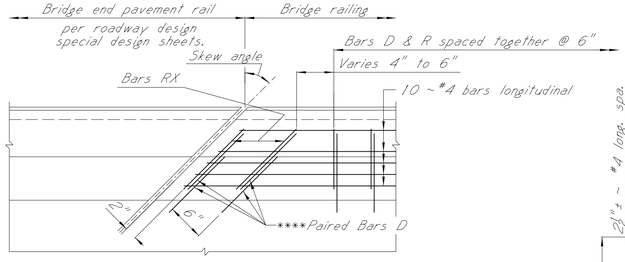


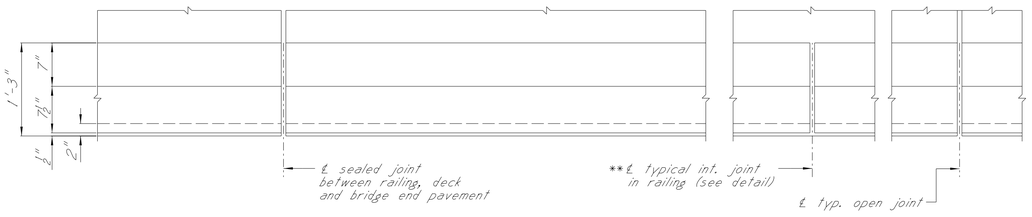
PART PLAN OF LEFT RAILING

Showing conventional reinforcing. See CONSTRUCTION NOTES for details of optional welded wire reinforcement.



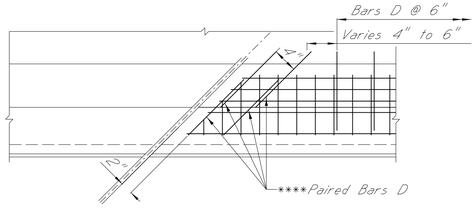
SKEWED PART PLAN OF LEFT RAILING

Showing conventional reinforcing



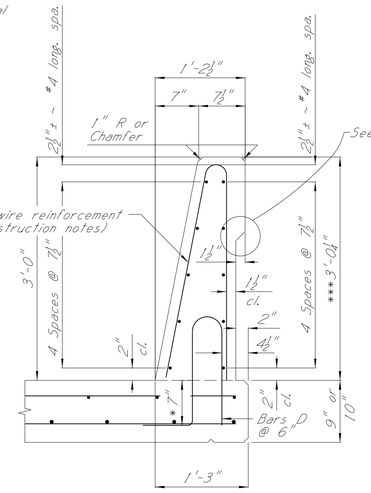
PART PLAN OF RIGHT RAILING

Showing concrete dimensions

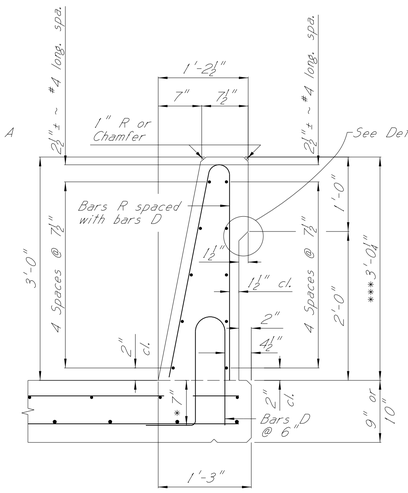


SKEWED PART PLAN OF RIGHT RAILING

Showing optional welded wire reinforcement. (See CONSTRUCTION NOTES)

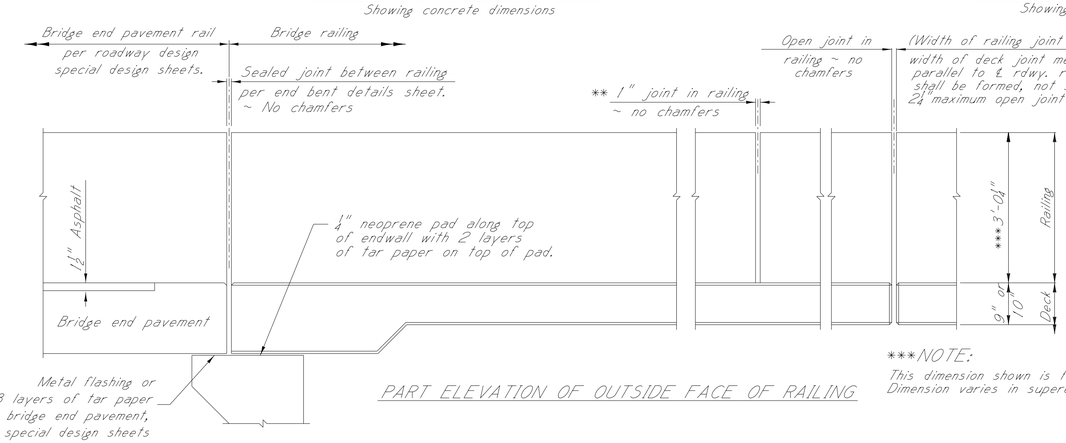


OPTIONAL WELDED WIRE REINFORCEMENT (WWR)



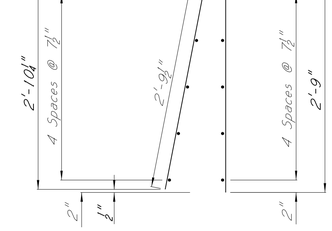
TYPICAL SECTION

*NOTE
For 8" nominal deck thickness.



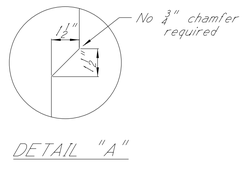
PART ELEVATION OF OUTSIDE FACE OF RAILING

***NOTE:
This dimension shown is for 0.02 ft/ft slope.
Dimension varies in superelevated sections.

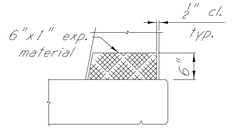


OPTIONAL WELDED WIRE REINFORCEMENT (WWR)

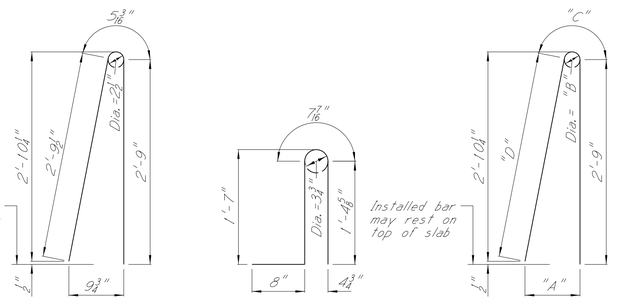
(For reinforcement details, see CONSTRUCTION NOTES)



DETAIL "A"



** TYPICAL INT. JOINT



BAR BENDING DETAILS

Dimensions are out to out

Table of Skew Dimensions				
Skew Angle	A	B	C	D
5°	9 13/16"	2 1/2"	5 3/16"	2'-9 5/16"
10°	9 7/8"	2 9/16"	5 1/4"	2'-9 5/16"
15°	10 1/8"	2 9/16"	5 3/16"	2'-9 3/8"
20°	10 3/8"	2 5/8"	5 3/16"	2'-9 3/8"
25°	10 3/4"	2 3/4"	5 3/8"	2'-9 7/16"
30°	11 1/4"	2 7/8"	5 3/16"	2'-9 7/16"
35°	11 7/8"	3 1/16"	5 3/8"	2'-9 1/2"
40°	1'-0 3/8"	3 1/4"	5 3/4"	2'-9 5/8"
45°	1'-1 3/4"	3 9/16"	6"	2'-9 13/16"

**NOTE: In lieu of the above, a ⅜ inch wide saw cut joint is permitted when railing is constructed using slipforming.
Joint shall be saw cut to within six (6) inches of the bridge deck; 6"x1" expansion material shall be omitted when the joint is saw cut.
Railing joints located at bridge deck joints shall be formed, not saw cut.
Railing constructed by the slipform method shall be in accordance with section 615.03.2 of the Mississippi Standard Specifications.

NOTE:
If skew angle is not shown in the table, the dimensions for Bars RX shall be used for the next highest skew angle in the table.

****NOTE:
At skewed end sections, Bars D shall be used in pairs and field adjusted in order to maintain the necessary spacing and clearance.

NOTE:
For additional notes and details see typical section sheet.

NOTE:
Splice length for #4 longitudinal bars:
Uncoated or Galvanized = 1'-8"
Epoxy Coated = 2'-0"

CONSTRUCTION NOTES:
Deformed Welded Wire Reinforcement (WWR) (ASTM A 1064) of equal size and spacing may be substituted for #4 longitudinal bars and Bars R, as shown. Omit bars D at preformed drain holes. Tack welding to provide bracing for slip forming operations is acceptable. If the contractor chooses this option, bars D must be a weldable grade of ASTM A706 meeting the weldability requirements of ANSI/AWS D1.4-79 and be Grade 60 reinforcement.

GENERAL NOTES:
This rail has been successfully evaluated by full-scale crash test to meet MASH TL-4 criteria. This rail can be used for speeds of 50 mph and greater when a TL-3 rated guard fence transition is used. When a TL-2 rated guard fence transition is used, this rail can only be used for speeds of 45 mph and less.
Cover dimensions are clear dimensions, unless noted otherwise.
If the slab reinforcement is epoxy coated or galvanized, then the railing reinforcement shall also be epoxy coated or galvanized.

DESIGN DATA:
Specifications. . . . . .A.A.S.H.T.O. LRFD, 8th Edition, 2017 with 2018 Interims.
Concrete. . . . . .Class "AA" (4,000 psi)
Reinforcing. . . . . .ASTM A 615 Grade 60 (Fy = 60 ksi)
Assumed Design Weight. . 380 lbs./LF

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

3'-0" RAILING DETAILS

BY	REVISION	DATE

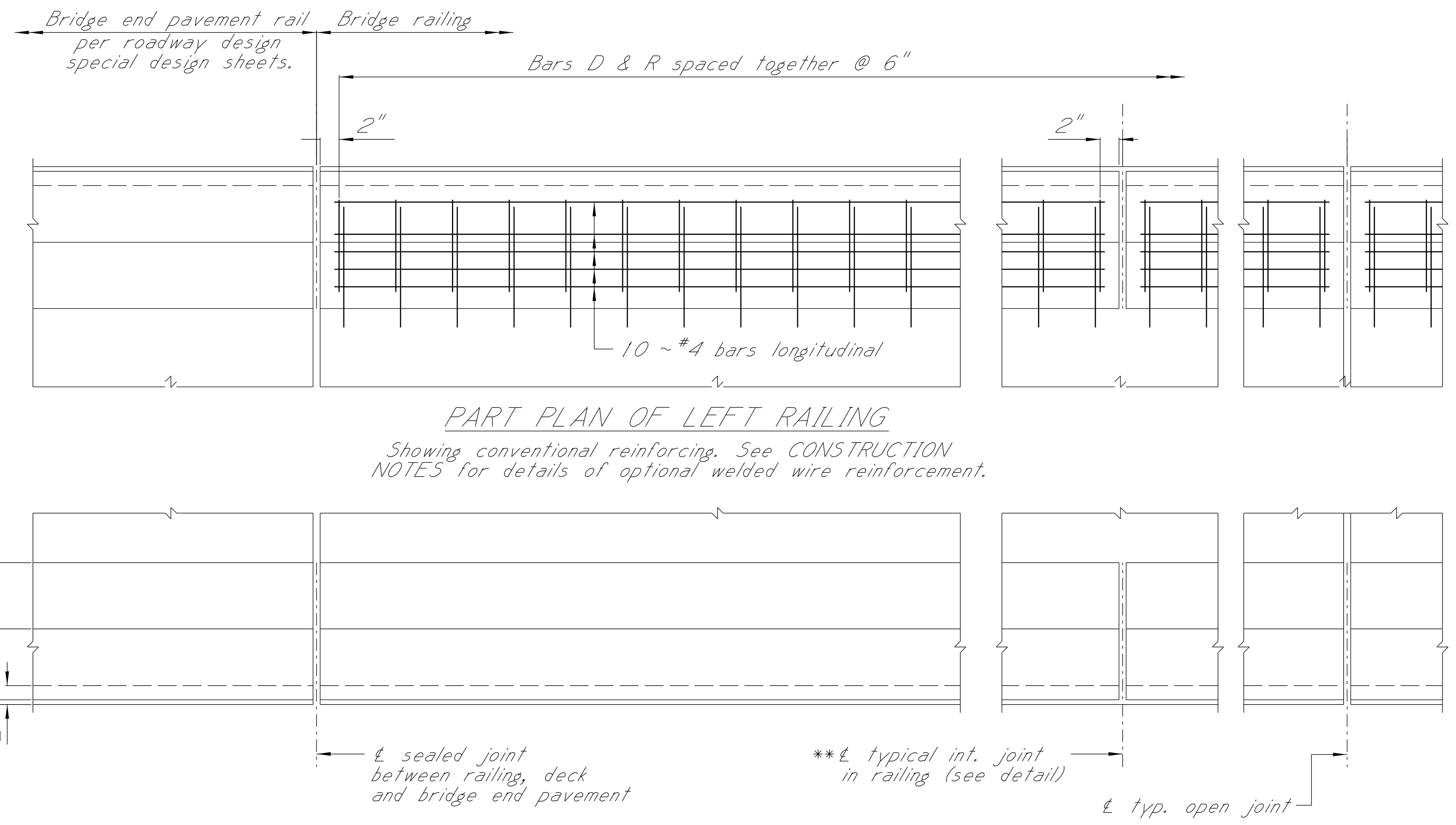
DESIGNER _____ CHECKER _____
DETAILER _____ ISSUE DATE _____
DIRECTOR OF STRUCTURES, STATE BRIDGE ENGINEER - JUSTIN WALKER, P.E.
DEP. DIR. OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.

WORKING NUMBER

SHEET NUMBER

PLAN
BRIDGE DIVISION
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

00:00AMPM DGNFILENAME

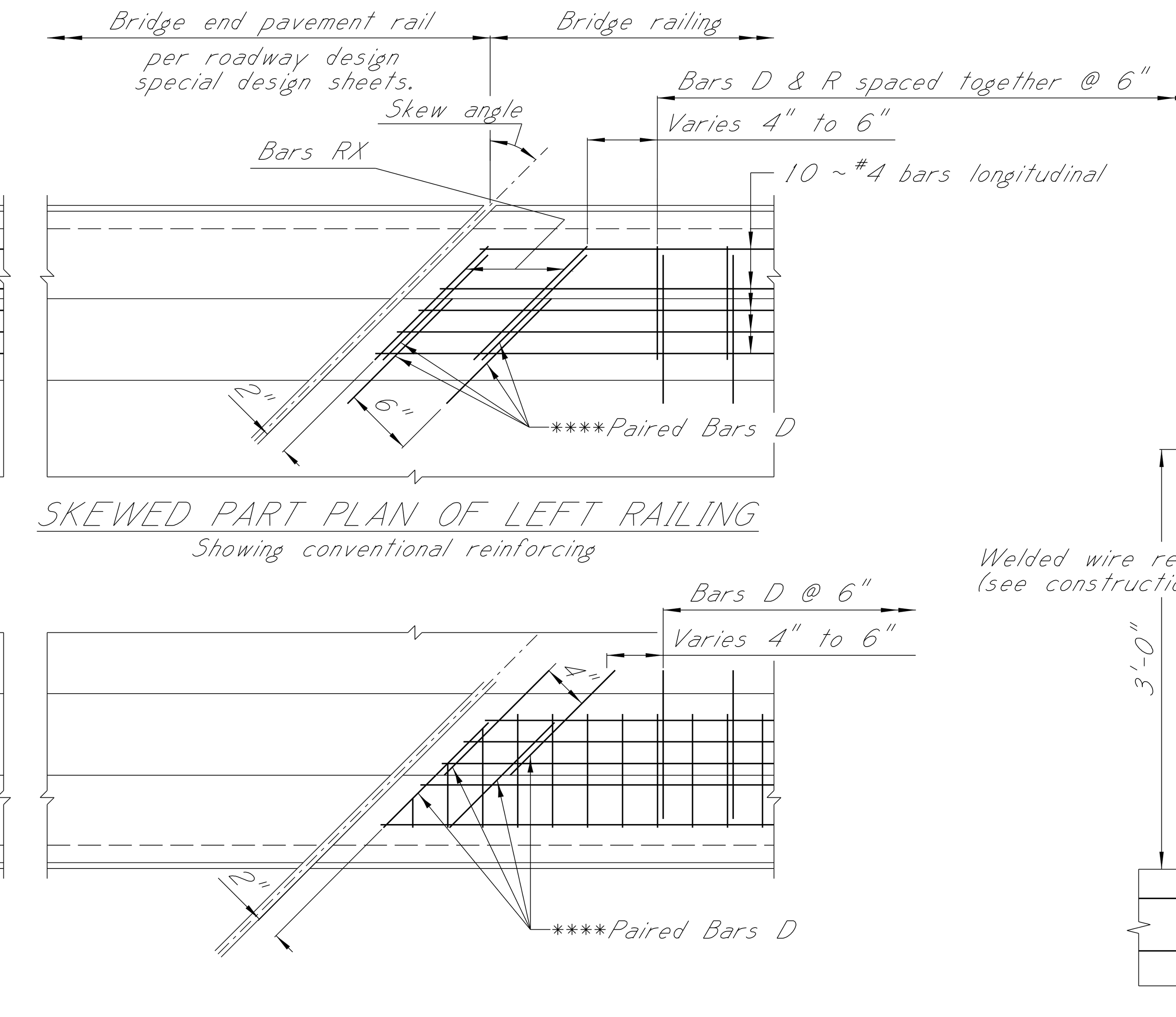


PART PLAN OF LEFT RAILING

Showing conventional reinforcing. See CONSTRUCTION NOTES for details of optional welded wire reinforcement.

PART PLAN OF RIGHT RAILING

Showing concrete dimensions

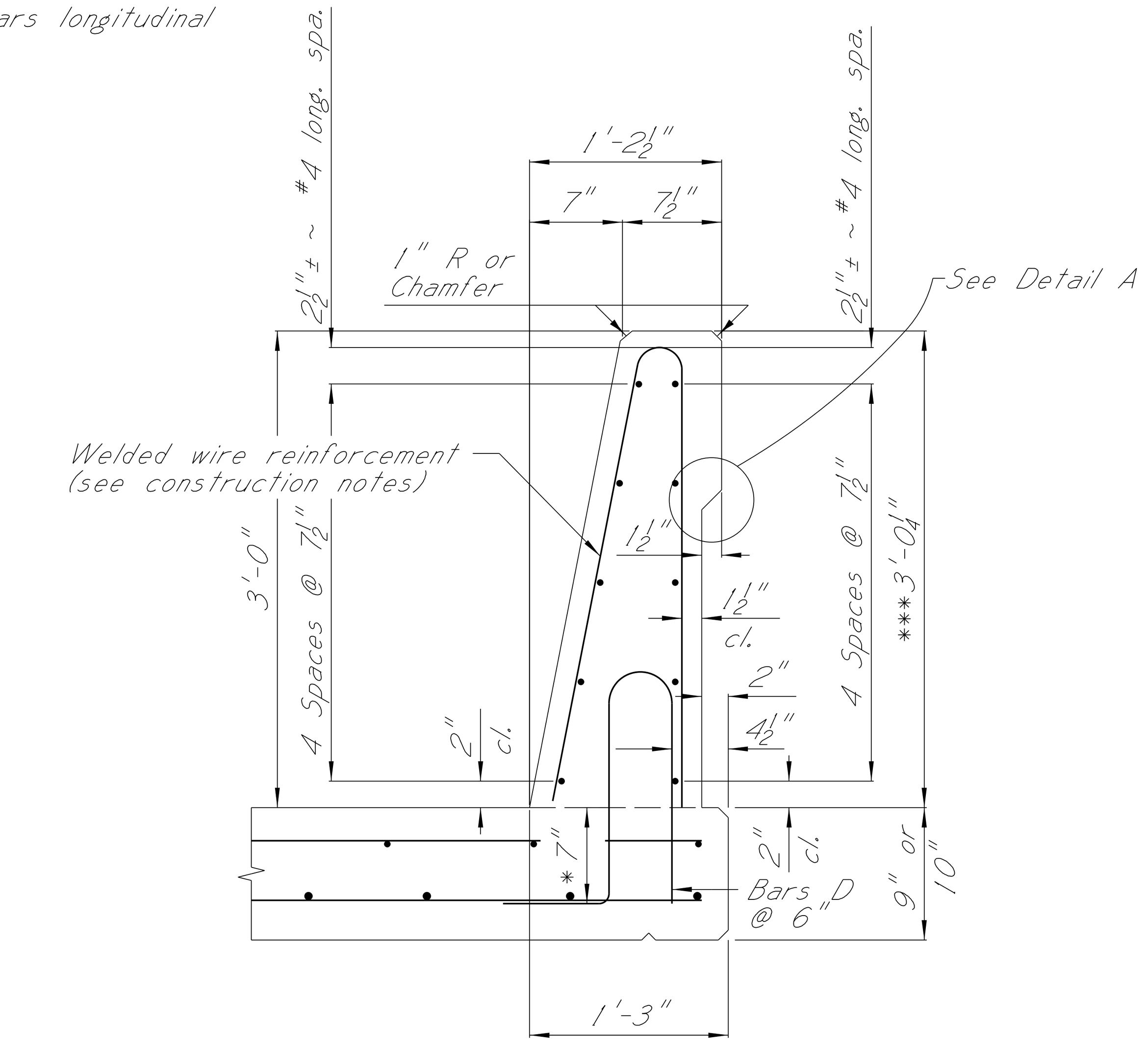


SKEWED PART PLAN OF LEFT RAILING

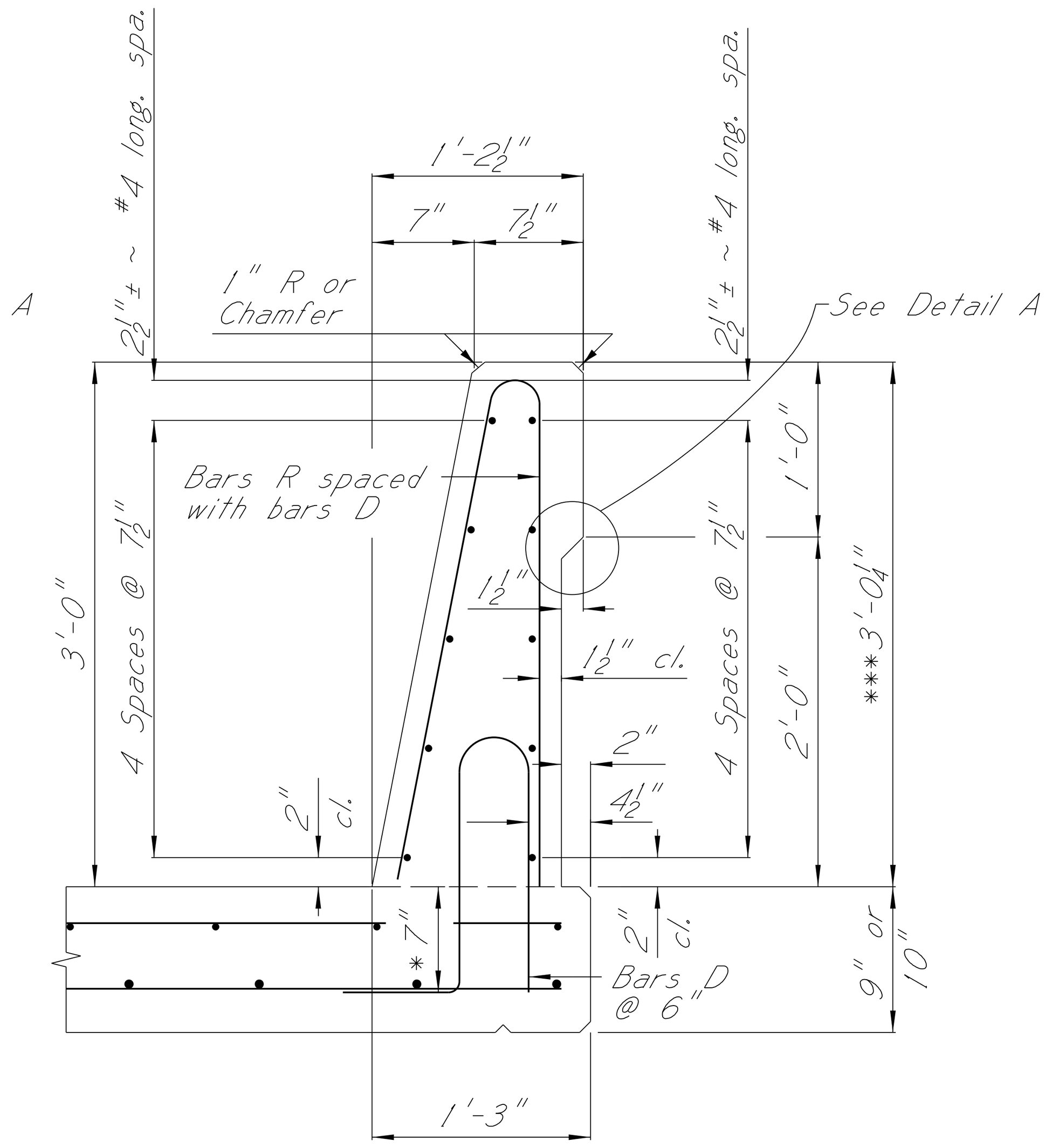
Showing conventional reinforcing

SKEWED PART PLAN OF RIGHT RAILING

Showing optional welded wire reinforcement. (See CONSTRUCTION NOTES)

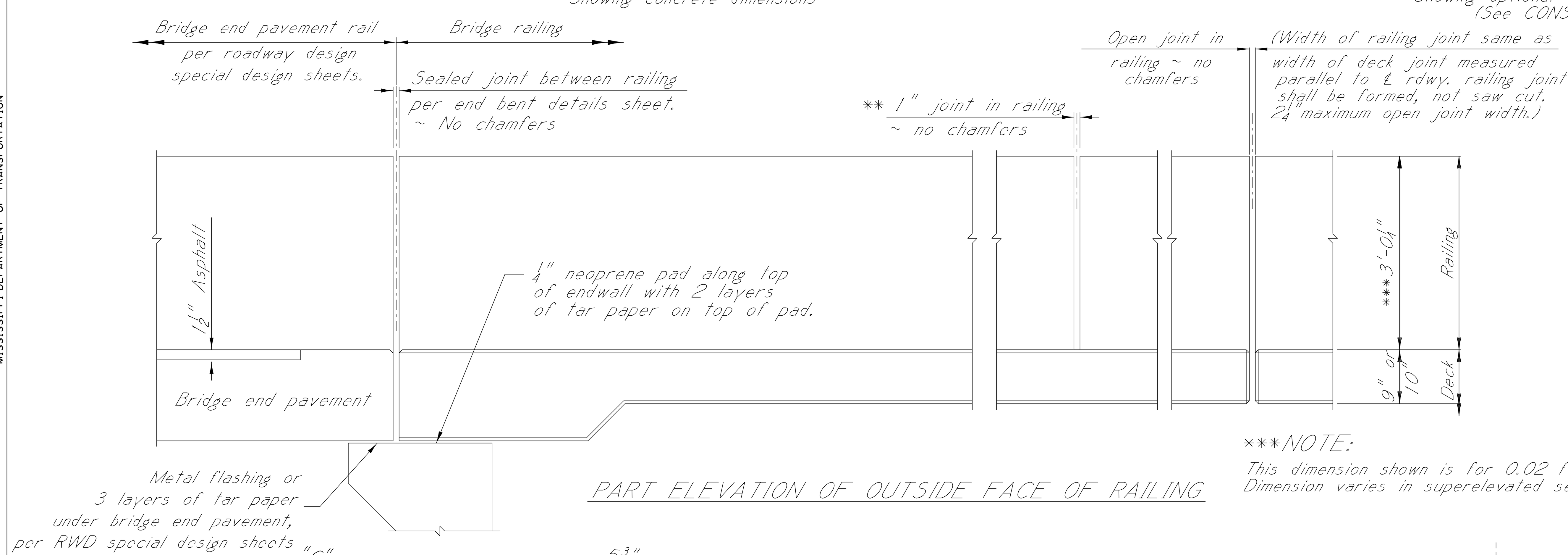


OPTIONAL WELDED WIRE REINFORCEMENT (WWR)



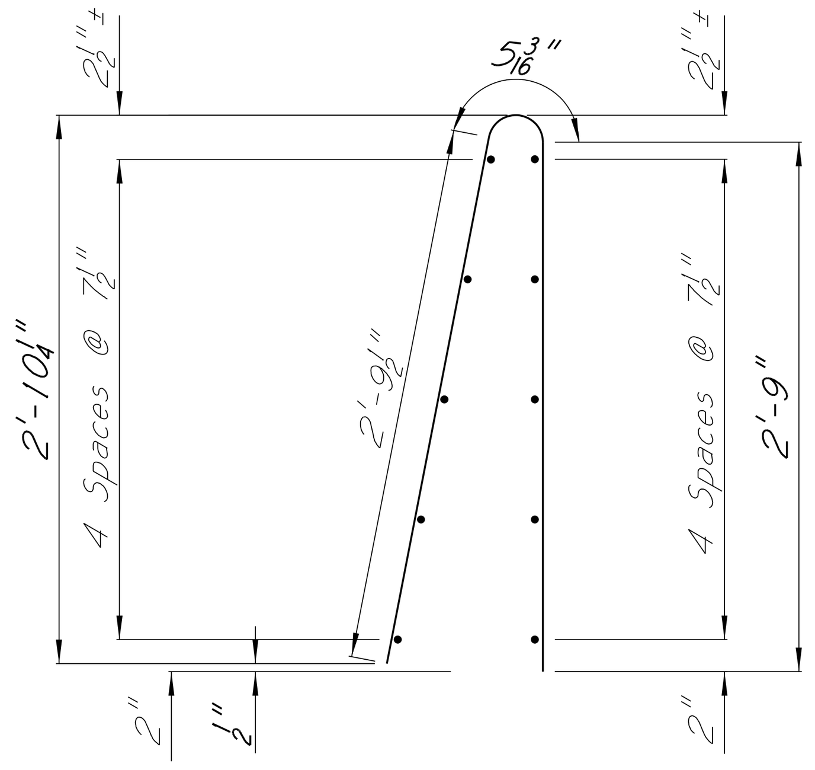
TYPICAL SECTION

*NOTE
For 8" nominal deck thickness.



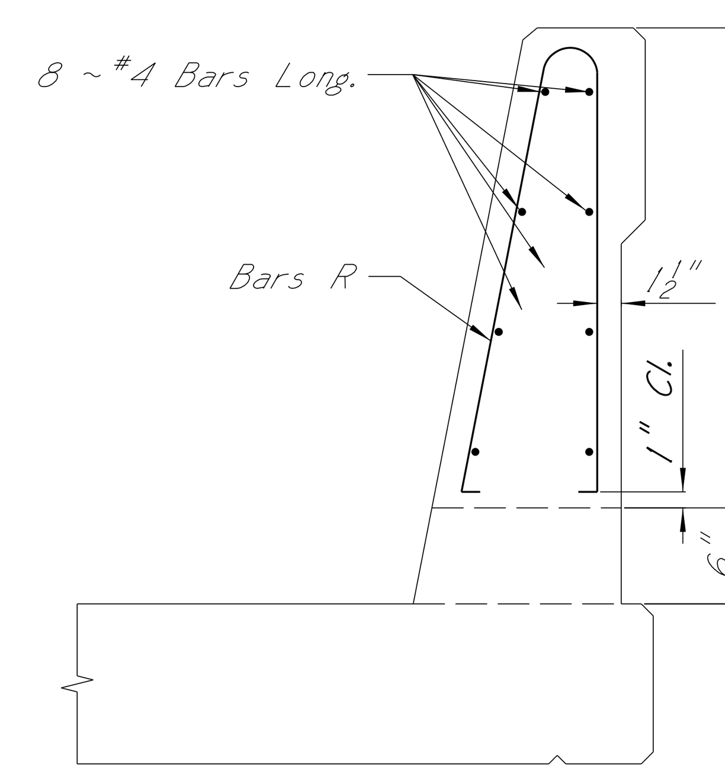
PART ELEVATION OF OUTSIDE FACE OF RAILING

***NOTE:
This dimension shown is for 0.02 ft/ft slope. Dimension varies in superelevated sections.

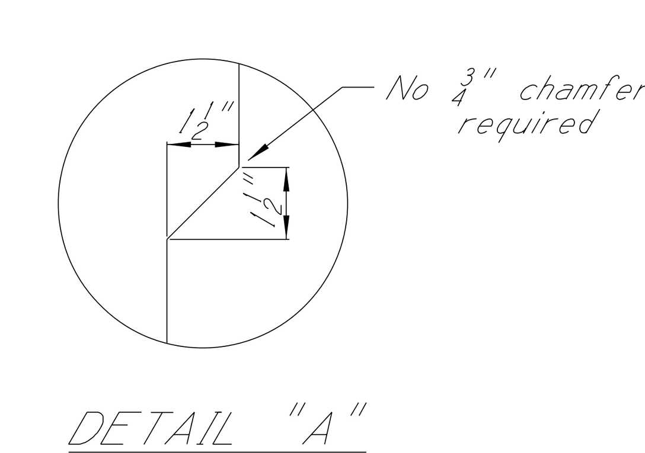


OPTIONAL WELDED WIRE REINFORCEMENT (WWR)

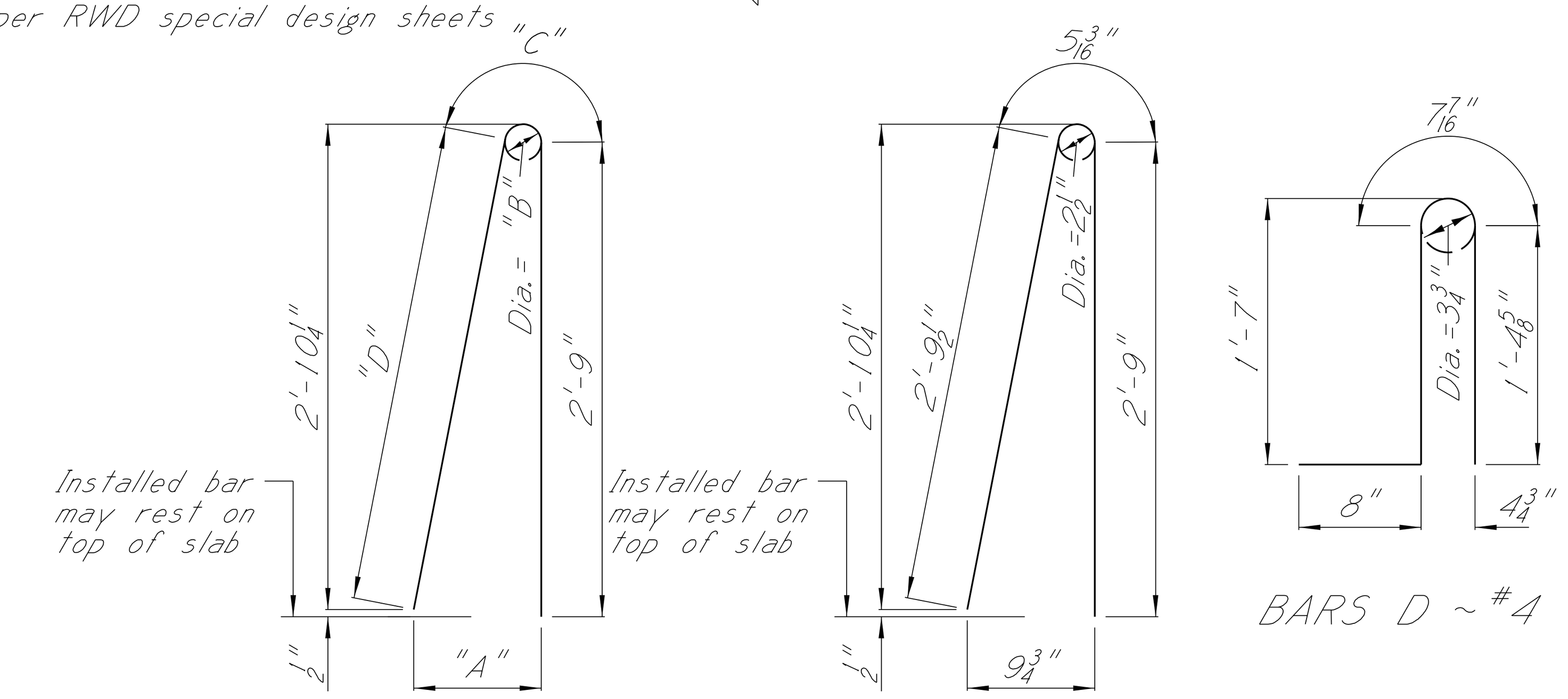
(For reinforcement details, see CONSTRUCTION NOTES)



SECTION THROUGH SLOTTED DRAIN



DETAIL "A"



BARS RX ~ #4

BARS R ~ #4

BARS D ~ #4

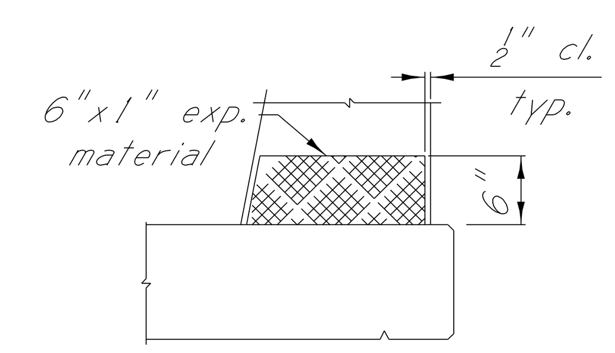
BAR BENDING DETAILS

Dimensions are out to out

Table of Skew Dimensions				
Skew Angle	A	B	C	D
5°	9 13/16"	2½"	5 3/16"	2'-9 5/16"
10°	9⅞"	2 9/16"	5¼"	2'-9 5/16"
15°	10⅛"	2 9/16"	5 3/16"	2'-9⅜"
20°	10⅜"	2 11/16"	5 5/16"	2'-9⅜"
25°	10¾"	2¾"	5⅜"	2'-9 7/16"
30°	11¼"	2⅞"	5 7/16"	2'-9 7/16"
35°	11⅞"	3 1/16"	5⅝"	2'-9½"
40°	1'-0¾"	3¼"	5¾"	2'-9⅝"
45°	1'-1¾"	3 9/16"	6"	2'-9 13/16"

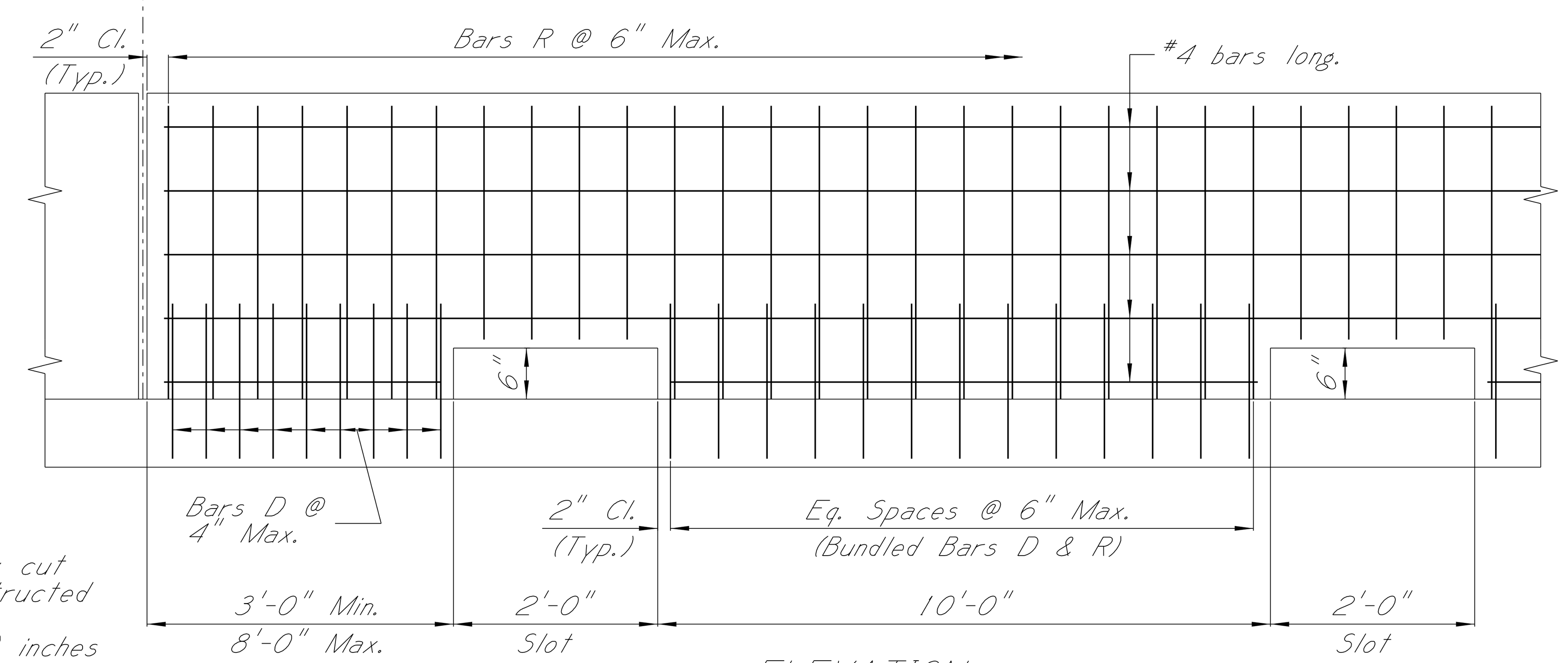
NOTE:
If skew angle is not shown in the table, the dimensions for Bars RX shall be used for the next highest skew angle in the table.

****NOTE:
At skewed end sections, Bars D shall be used in pairs and field adjusted in order to maintain the necessary spacing and clearance.



** TYPICAL INT. JOINT

**NOTE: In lieu of the above, a ⅜ inch wide saw cut joint is permitted when railing is constructed using slipforming.
Joint shall be saw cut to within six (6) inches of the bridge deck; 6"x1" expansion material shall be omitted when the joint is saw cut.
Railing joints located at bridge deck joints shall be formed, not saw cut.
Railing constructed by the slipform method shall be in accordance with section 615.03.2 of the Mississippi Standard Specifications.



ELEVATION

Showing bridge barrier railing with horizontal drain slots

NOTE: Space Bars D at 4" max. when end region of panel length is less than 6'-0" to side slot drain. Space Bars D at 6" max. when end region of panel length is 6'-0" and greater to side slot drain.

NOTE:
For additional notes and details see typical section sheet.

NOTE:
Splice length for #4 longitudinal bars:
Uncoated or Galvanized = 1'-8"
Epoxy Coated = 2'-0"

CONSTRUCTION NOTES:

Deformed Welded Wire Reinforcement (WWR) (ASTM A 1064) of equal size and spacing may be substituted for #4 longitudinal bars and Bars R, as shown.
Omit bars D at slotted drains.
Tack welding to provide bracing for slip forming operations is acceptable. If the contractor chooses this option, bars D must be a weldable grade of ASTM A706 meeting the weldability requirements of ANSI/AWS D1.4-79 and be Grade 60 reinforcement.

GENERAL NOTES:

This rail has been successfully evaluated by full-scale crash test to meet MASH TL-4 criteria. This rail can be used for speeds of 50 mph and greater when a TL-3 rated guard fence transition is used. When a TL-2 rated guard fence transition is used, this rail can only be used for speeds of 45 mph and less.
Cover dimensions are clear dimensions, unless noted otherwise.
If the slab reinforcement is epoxy coated or galvanized, then the railing reinforcement shall also be epoxy coated or galvanized.

DESIGN DATA:

Specifications. . . . . . . .A.A.S.H.T.O. LRFD, 8th Edition, 2017 with 2018 Interims.
Concrete. . . . . .Class "AA" (4,000 psi)
Reinforcing. . . . . .ASTM A 615 Grade 60 (Fy = 60 ksi)
Assumed Design Weight. . 380 lbs./LF

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

BY

REVISION

DATE

3'-0" RAILING DETAILS (SLOTTED DRAIN)

DESIGNER ______ CHECKER ______
DETAILER ______ ISSUE DATE ______
DIRECTOR OF STRUCTURES, STATE BRIDGE ENGINEER - JUSTIN WALKER, P.E.
DEP. DIR. OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.

WORKING NUMBER

SHEET NUMBER

PLAN
BRIDGE DIVISION
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

00: 00AMPM DGNFILENAME