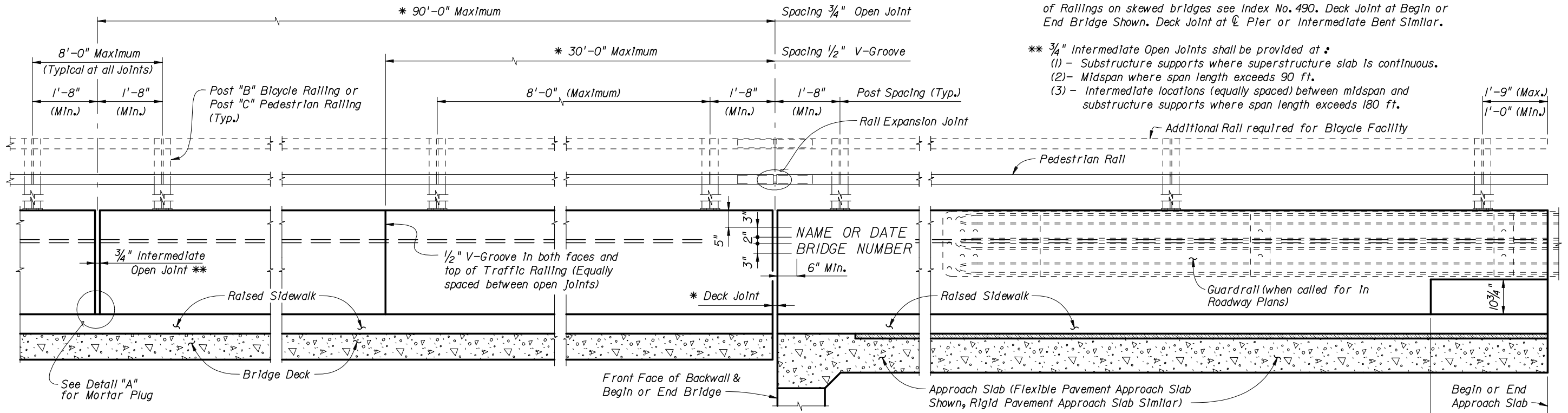


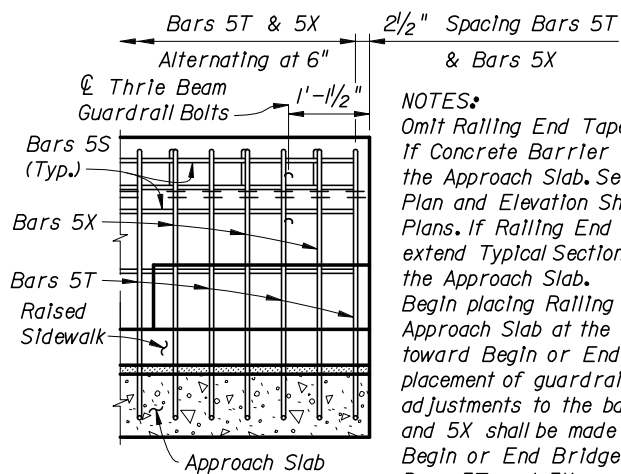
PLAN
(Rails, Posts and Reinforcing Steel not shown for clarity)

* See Structures Plans, Superstructure and Approach Slab Sheets for actual dimensions and joint orientation. Open Railing Joints at Deck Expansion Joint locations shall match the dimensions of the Deck Joint. For treatment of Railings on skewed bridges see Index No. 490. Deck Joint at Begin or End Bridge Shown. Deck Joint at ϕ Pier or Intermediate Bent Similar.

** $\frac{3}{4}$ " Intermediate Open Joints shall be provided at:
 (1) - Substructure supports where superstructure slab is continuous.
 (2) - Midspan where span length exceeds 90 ft.
 (3) - Intermediate locations (equally spaced) between midspan and substructure supports where span length exceeds 180 ft.



ELEVATION OF INSIDE FACE OF RAILING
(Reinforcing Steel not shown for clarity)



RAILING END DETAIL

NOTES:
 Omit Railing End Taper and Guardrail If Concrete Barrier Wall is used beyond the Approach Slab. See Structures Plans, Plan and Elevation Sheet and Roadway Plans. If Railing End Taper is omitted, extend Typical Section to the end of the Approach Slab.
 Begin placing Railing Bars 5T and 5X on Approach Slab at the railing end and proceed toward Begin or End Bridge to ensure placement of guardrail bolt holes. If required, adjustments to the bar spacing for Bars 5T and 5X shall be made immediately adjacent to Begin or End Bridge. Shift and rotate Bars 5T and 5X on Approach Slab in end taper section as required to maintain cover.

This railing has been structurally evaluated to be equivalent or greater in strength to other safety shape railings which have been crash tested to NCHRP Report 350 TL-4 Criteria.

CONCRETE AND REINFORCING STEEL: See Structures Plans, General Notes.

MARKERS: Elevation Markers shall be placed on top of the Traffic Railing at the end bents. On bridges longer than 100 ft. one marker shall be placed at each end of the bridge. On bridges 100 ft. or less one marker shall be placed at one end of the bridge only. Markers are to be furnished by the Florida Department of Transportation and installed by the Contractor. The cost of installing the markers shall be included in the Contract Unit Price for the Traffic Railing.

GUARDRAIL: For Guardrail connection details, see Index No. 400.

PEDESTRIAN AND BICYCLE RAILING DETAILS: See Index No. 822 for Post, Rail and Rail Expansion Joint fabrication and Installation Details and Notes.

TRAFFIC RAILING NOTES

RAILINGS ON RETAINING WALLS: If the Traffic Railing is to be provided on a retaining wall, the railing section will be the same as shown on Index No. 423, Sheet 2 of 2. All other details such as the guardrail transition attachment, the maximum spacing of the $\frac{3}{4}$ " open joints and $\frac{1}{2}$ " V-groove shall apply.

NAME, DATE, AND BRIDGE NUMBER: The Name and Bridge Number shall be placed on the Traffic Railing so as to be seen on the driver's right side when approaching the bridge. The Date shall be placed on the driver's left side when approaching the bridge. The Date shall be the year the bridge is constructed. For a major widening the date shall be the year of the widening. Black plastic letters and figures 3" in height may be used, as approved by the Engineer, in lieu of the letters and figures formed by $\frac{3}{8}$ " V-Grooves. V-Grooves shall be formed by preformed letters and figures.

CROSS REFERENCE:

For Section A-A, View B-B and Detail "A", see Index No. 423, Sheet 2 of 2.



2006 FDOT Design Standards

TRAFFIC RAILING - (32" VERTICAL SHAPE)

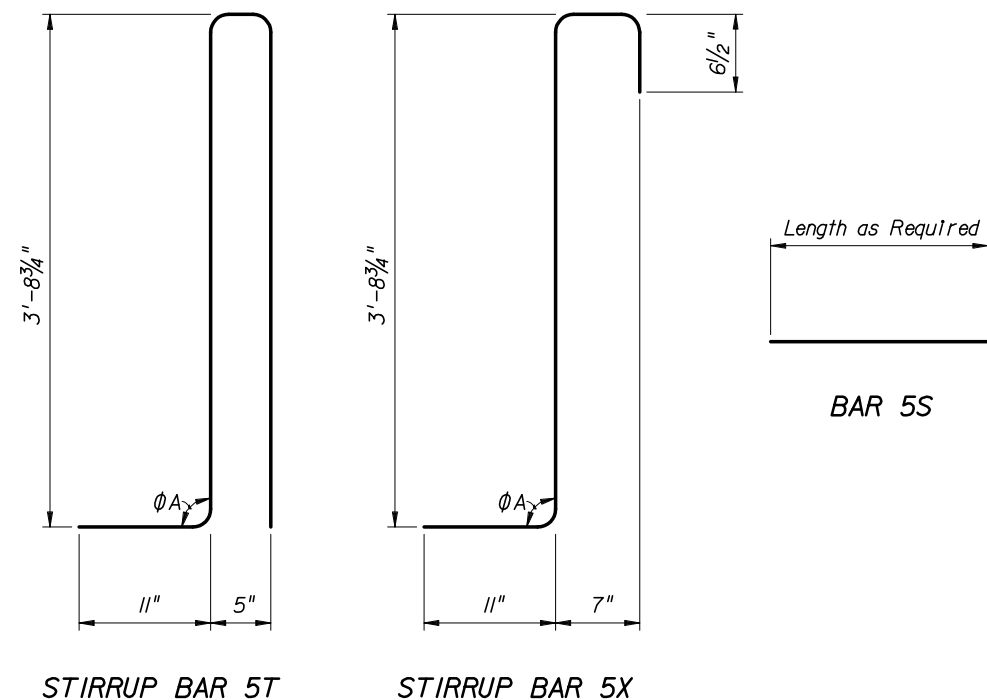
Last Revision	Sheet No.
07/01/05	1 of 2
Index No.	
423	

CONVENTIONAL REINFORCING STEEL BENDING DIAGRAMS

BILL OF REINFORCING STEEL

MARK	SIZE	LENGTH
S	5	AS REQ'D
T	5	9'-0"
X	5	5'-10"

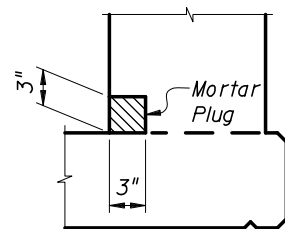
ROADWAY CROSS-SLOPE	ΦA	
	LOW GUTTER	HIGH GUTTER
0% to 2%	90°	90°
2% to 6%	87°	93°
6% to 10%	84°	96°



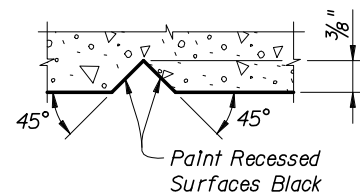
REINFORCING STEEL NOTES:

- All bar dimensions in the bending diagrams are out to out.
- The 3'-8 3/4" vertical dimensions shown for Bars 5T and 5X are based on a bridge deck with a 6" thick x 6' wide raised sidewalk at low side of deck, 2% deck cross slope and a counter 2% raised sidewalk cross slope. If the raised sidewalk thickness, width or cross slopes vary from the above amounts, adjust these vertical dimensions accordingly to achieve a 6" minimum embedment into the bridge deck.
- The reinforcement for the railing on a retaining wall shall be the same as detailed with ΦA = 90°.
- All reinforcing steel at the open joints shall have a 2" minimum cover.
- Bars 5S may be continuous or spliced at the construction joints. Bar splices for Bars 5S shall be a minimum of 2'-2".
- The Contractor may utilize Welded Wire Fabric when approved by the Engineer. Welded Wire Fabric shall conform to ASTM A497.

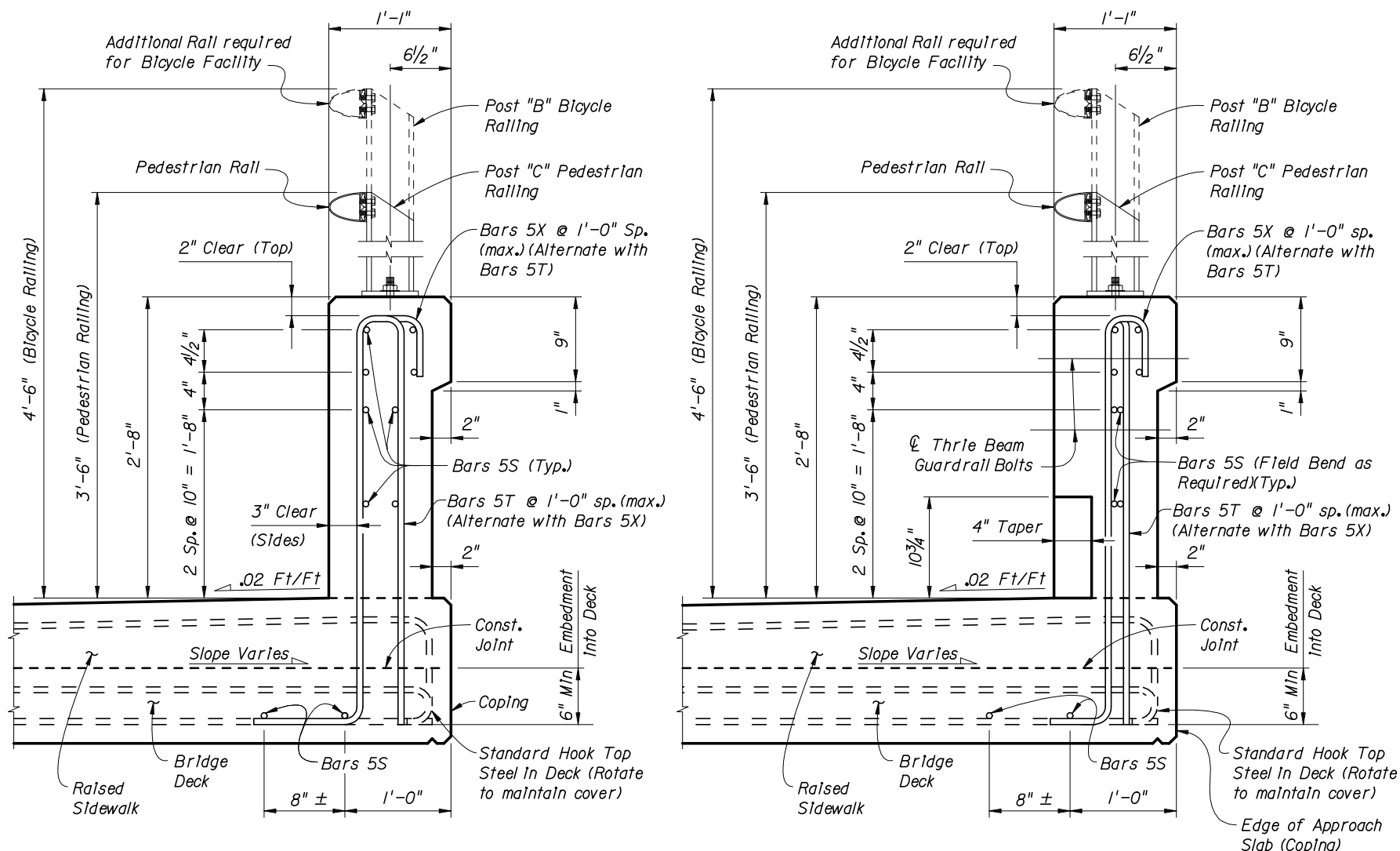
NOTE:
At Intermediate Open Joints, the lower 3" portion of the open joint shall be plugged by filling it with mortar in accordance with Section 400 of the Specifications.



DETAIL "A" - SECTION AT INTERMEDIATE OPEN JOINT



SECTION THRU RECESSED "V" GROOVE TO FORM INSCRIBED LETTERS AND FIGURES



SECTION A-A
TYPICAL SECTION THRU TRAFFIC RAILING
SECTION THRU BRIDGE DECK SHOWN

VIEW B-B
APPROACH SLAB END VIEW
OF TRAFFIC RAILING

NOTES: For Post "B", Post "C" and Rail Details, see Index No. 822.

CROSS REFERENCE:
For location of Section A-A, View B-B and Detail "A", see Index No. 423, Sheet 1 of 2.

ESTIMATED TRAFFIC RAILING QUANTITIES		
ITEM	UNIT	QUANTITY
Concrete	C.Y./FT.	0.095
Reinforcing Steel	LB./FT.	25.90

(The above quantities are based on a 6" thick x 6' wide raised sidewalk at low side of deck, 2% deck cross slope and counter 2% sidewalk cross slope.)

INSTRUCTIONS TO DESIGNER:

For Bridge Decks up to a maximum thickness of 9", the two Bars 5S placed in the Bridge Deck may substitute for the longitudinal deck steel located within the limits of Bars 5T, provided that the total area of longitudinal steel beneath the railing, as required by calculation, is not reduced. Show these bars on the Structures Plans, Superstructure Sheets with the deck steel.



2006 FDOT Design Standards

TRAFFIC RAILING - (32" VERTICAL SHAPE)

Last Revision
07/01/05
Sheet No.
2 of 2
Index No.
423