

**VIEW C-C**  
**ELEVATION - RAILING END TRANSITION**  
 (Guardrail and back leg of Stirrups not shown for clarity)

PLAN  
 (Reinforcing Steel not shown for clarity)

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

**NOTE:**  
 Begin placing Railing Bars 5P and 5V 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 5P and 5V shall be made immediately adjacent to Begin or End Bridge. Shift and rotate Bars 5P and 5V (see Detail "A") as required to maintain cover in Railing End Transition.

\* 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  $\bar{C}$  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.

**NOTE:**  
 Omit Railing End Transition and Guardrail if Concrete Railing Wall is used beyond the Approach Slab. See Structures Plans, Plan and Elevation Sheet and Roadway Plans. If Railing End Transition is omitted, extend Typical Section to end of the Approach Slab and space Bars 5P and 5V at 8" (Typ.).

**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. 425, 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, End View B-B, Detail "A" and Detail "B" see Index No. 425, Sheet 2 of 2.

**CONVENTIONAL REINFORCING STEEL BENDING DIAGRAMS**

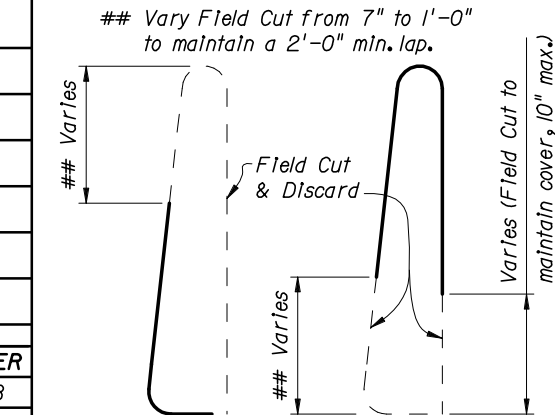
**BILL OF REINFORCING STEEL**

MARK	SIZE	LENGTH
P	5	7'-5"
SI	8	AS REQ'D
S2	5	AS REQ'D
T1 & T2	8	13'-0"
V	5	6'-2"

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

∅A and ∅B shall be 90° if Contractor elects to place Railing Perpendicular to the Deck.

Length as Required



**TRANSITION STIRRUP BARS 5P**  
To Be Field Cut (10 of each required per Railing End Transition)

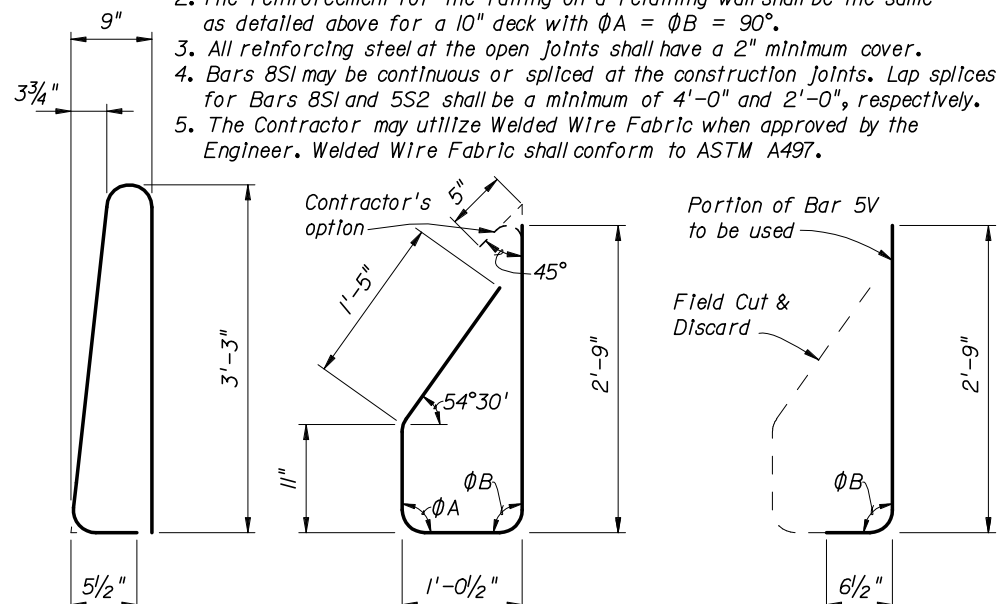
6'-6"

**BARS 8SI & 5S2**

**TRANSITION BARS 8TI & 8T2**  
(2 of each required per Railing End Transition)

**REINFORCING STEEL NOTES:**

- All bar dimensions in the bending diagrams are out to out.
- The reinforcement for the railing on a retaining wall shall be the same as detailed above for a 10" deck with ∅A = ∅B = 90°.
- All reinforcing steel at the open joints shall have a 2" minimum cover.
- Bars 8SI may be continuous or spliced at the construction joints. Lap splices for Bars 8SI and 5S2 shall be a minimum of 4'-0" and 2'-0", respectively.
- The Contractor may utilize Welded Wire Fabric when approved by the Engineer. Welded Wire Fabric shall conform to ASTM A497.



**STIRRUP BAR 5P**

**STIRRUP BAR 5V**

**END STIRRUP BAR 5V**

To Be Field Cut (One required per Railing End Transition)

**CROSS REFERENCE:**

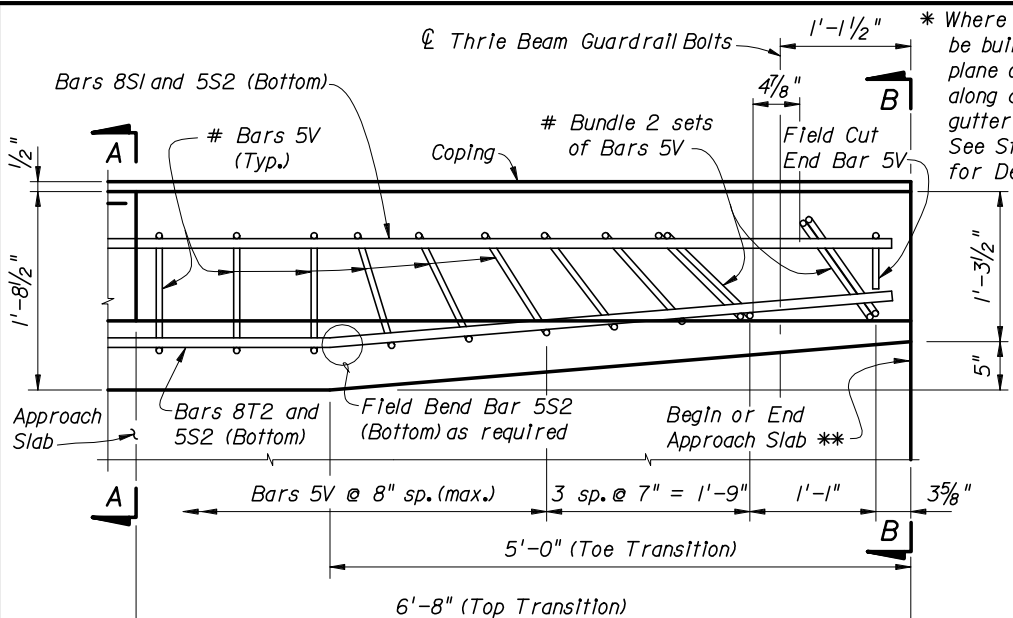
For location of Section A-A, End View B-B and Elevation View of Railing End Transition see Index No. 425, Sheet 1 of 2.

**Note:**

The estimated railing quantities are based on 2% deck cross slope; railing on low side of deck.

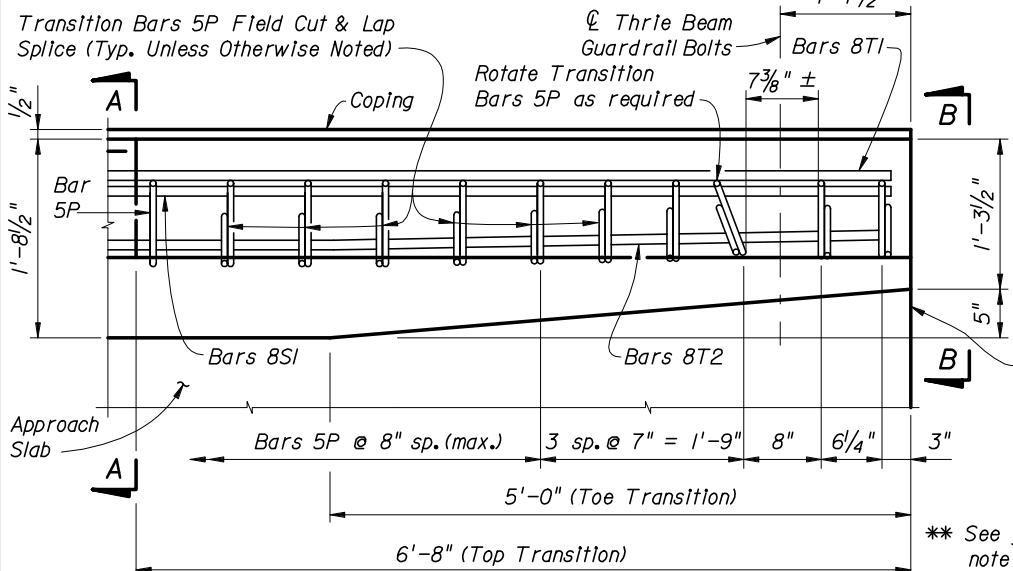
**ESTIMATED TRAFFIC RAILING QUANTITIES**

ITEM	UNIT	QUANTITY
Concrete	C.Y./FT.	0.54
Reinforcing Steel	LB./FT.	44.71



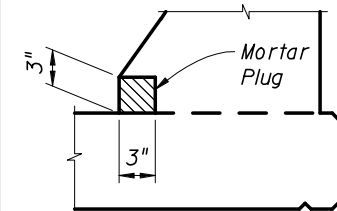
**PLAN - Railing End Transition**  
(Showing Bars 5V, 8SI, 5S2 and 8T2)

# Rotate Bars 5V as shown to maintain clearance.



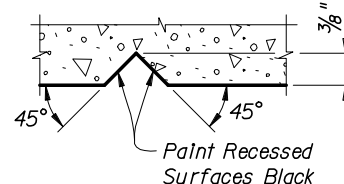
**PLAN - Railing End Transition**  
(Showing Transition Bars 5P and Bars 8SI, 8TI & 8T2)

**DETAIL "A"**

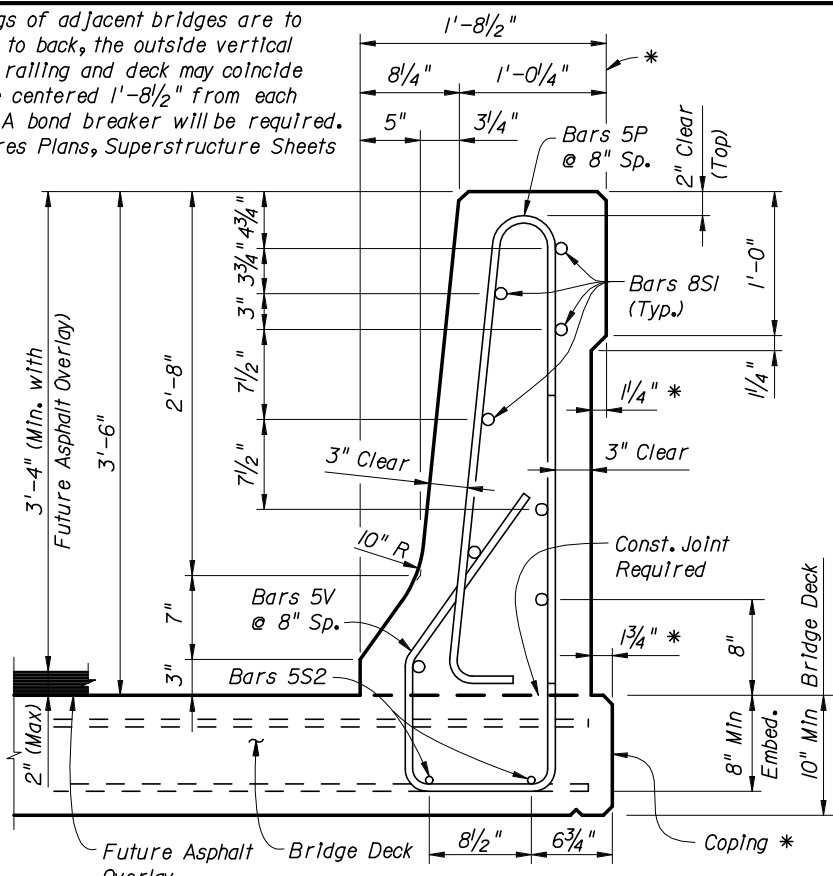


**DETAIL "B" - SECTION AT INTERMEDIATE OPEN JOINT**

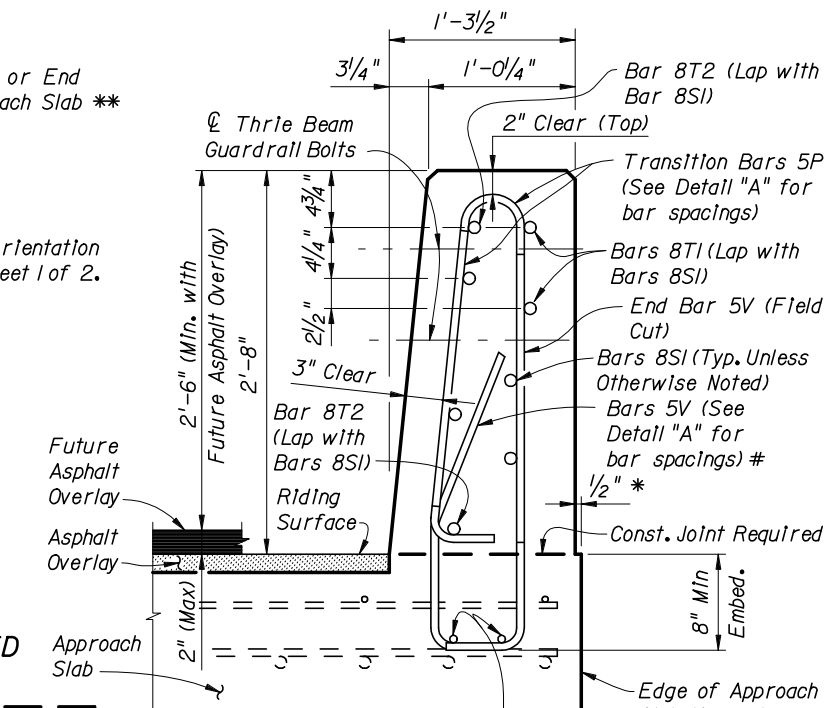
**NOTE:**  
At Intermediate Open Joints, the lower 3" portion of the open joint shall be plugged by filling it with mortar in accordance with Section 400 of the Specifications.



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



**SECTION A-A**  
**TYPICAL SECTION THRU TRAFFIC RAILING**  
(SECTION THRU BRIDGE DECK SHOWN - SECTION THRU APPROACH SLAB SIMILAR)



**END VIEW B-B**

**INSTRUCTIONS TO DESIGNER:**

For Bridge Decks up to a maximum thickness of 11", the two Bars 5S2 placed in the Bridge Deck may substitute for the longitudinal deck steel located within the limits of Bars 5V, provided that the total area of longitudinal deck 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 - (42" F SHAPE)**

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