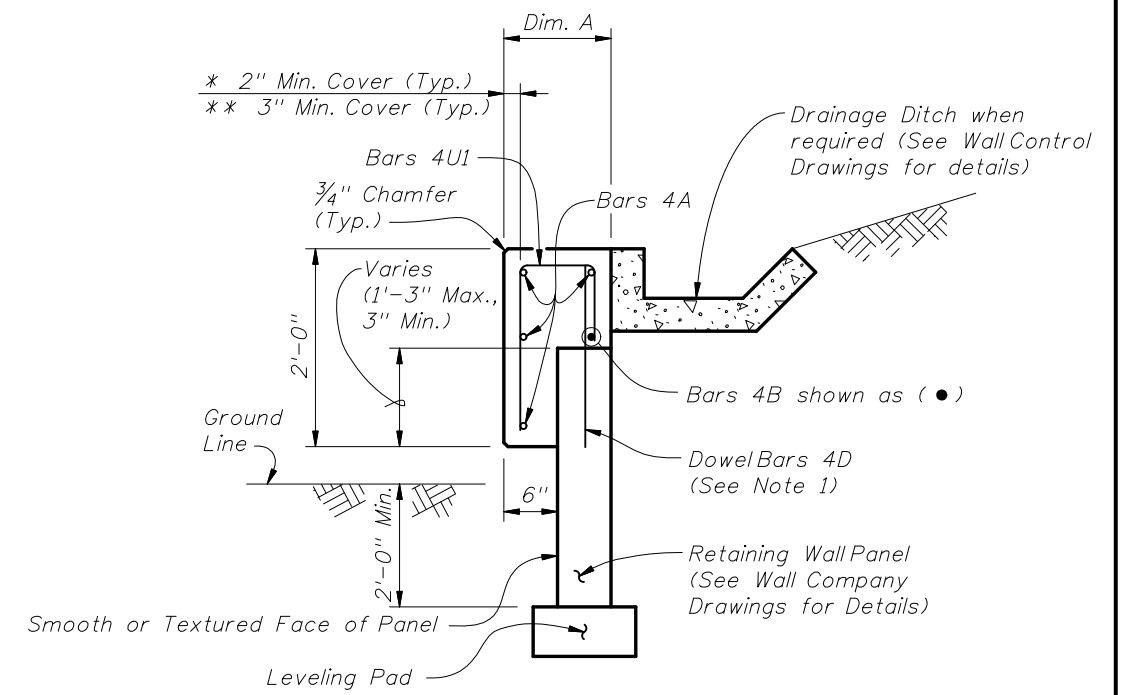


C.I.P. COPING - PARTIAL ELEVATION VIEW

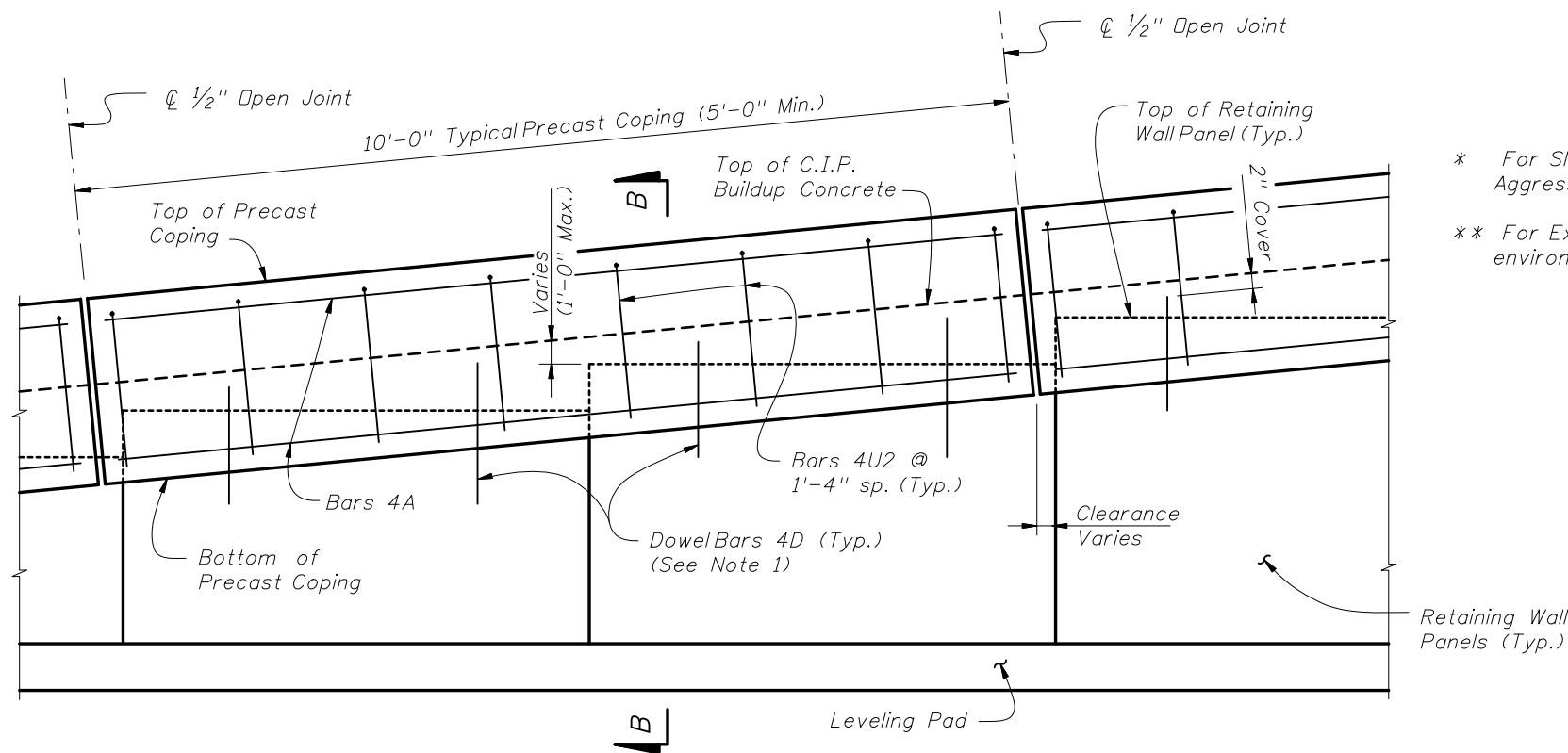


SECTION A-A  
C.I.P. COPING

Dim. A	Panel width + 6"
Dim. B	Panel width + 1'-0" Min.

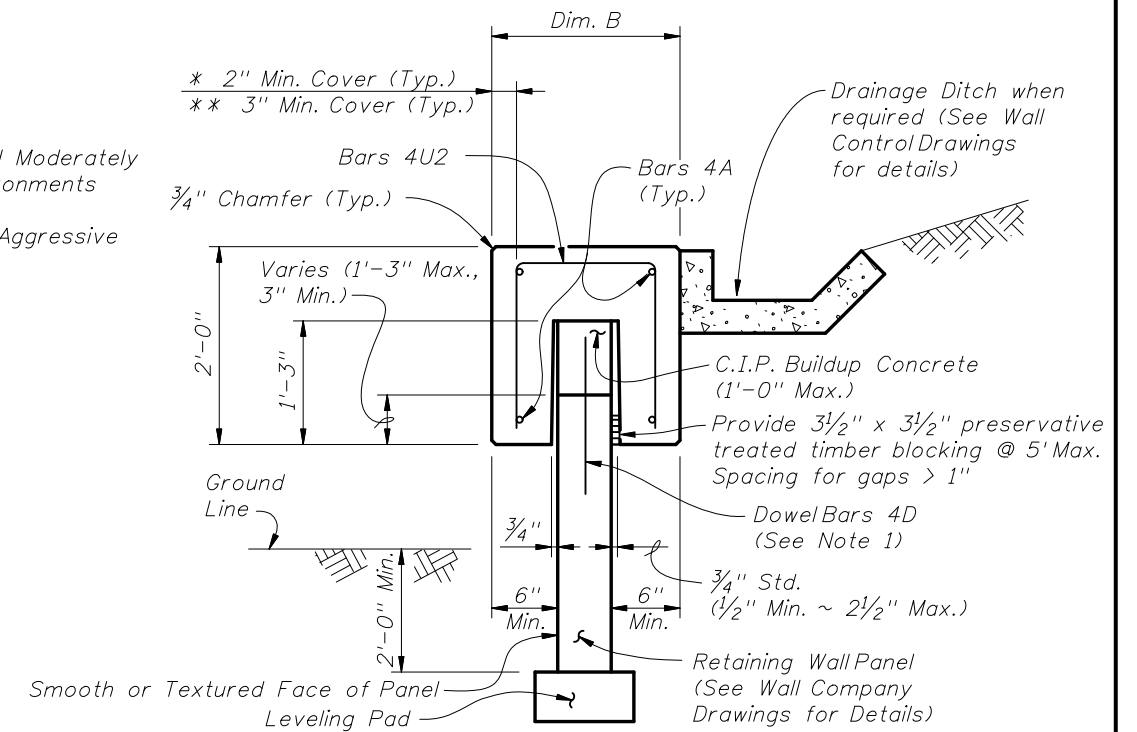
PRECAST AND C.I.P. COPING NOTES:

- Dowel Bars 4D extend 1'-0" above the top of retaining wall panel. Field cut as necessary to maintain 2" minimum cover. See Wall Company Drawings for number and spacing of Dowel Bars 4D.



PRECAST COPING - PARTIAL ELEVATION VIEW

- \* For Slightly and Moderately Aggressive environments
- \*\* For Extremely Aggressive environments.

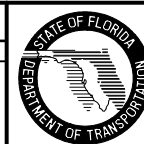


SECTION B-B  
PRECAST COPING

PRECAST AND C.I.P. COPING DETAILS

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
01/01/08	TJB	Changed "6" to "6" Min." and "3/4" Std. (1/2" Min. ~ 1 1/4" Max.)" to "3/4" Std. (1/2" Min. ~ 2 1/2" Max.)" in SECTION B-B.			
	SJN	Added timber blocking note in SECTION B-B.			



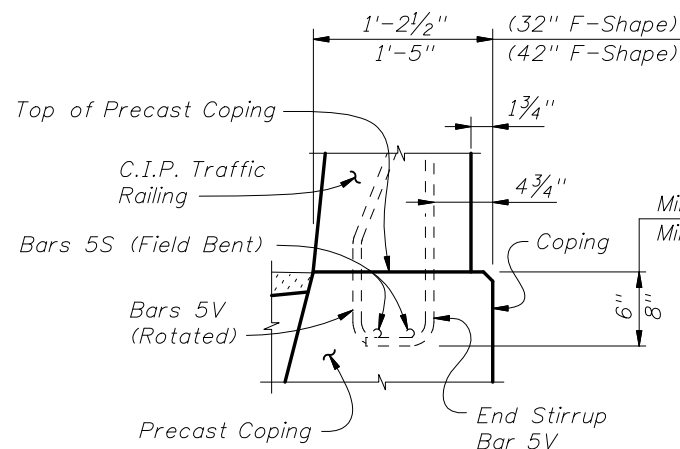
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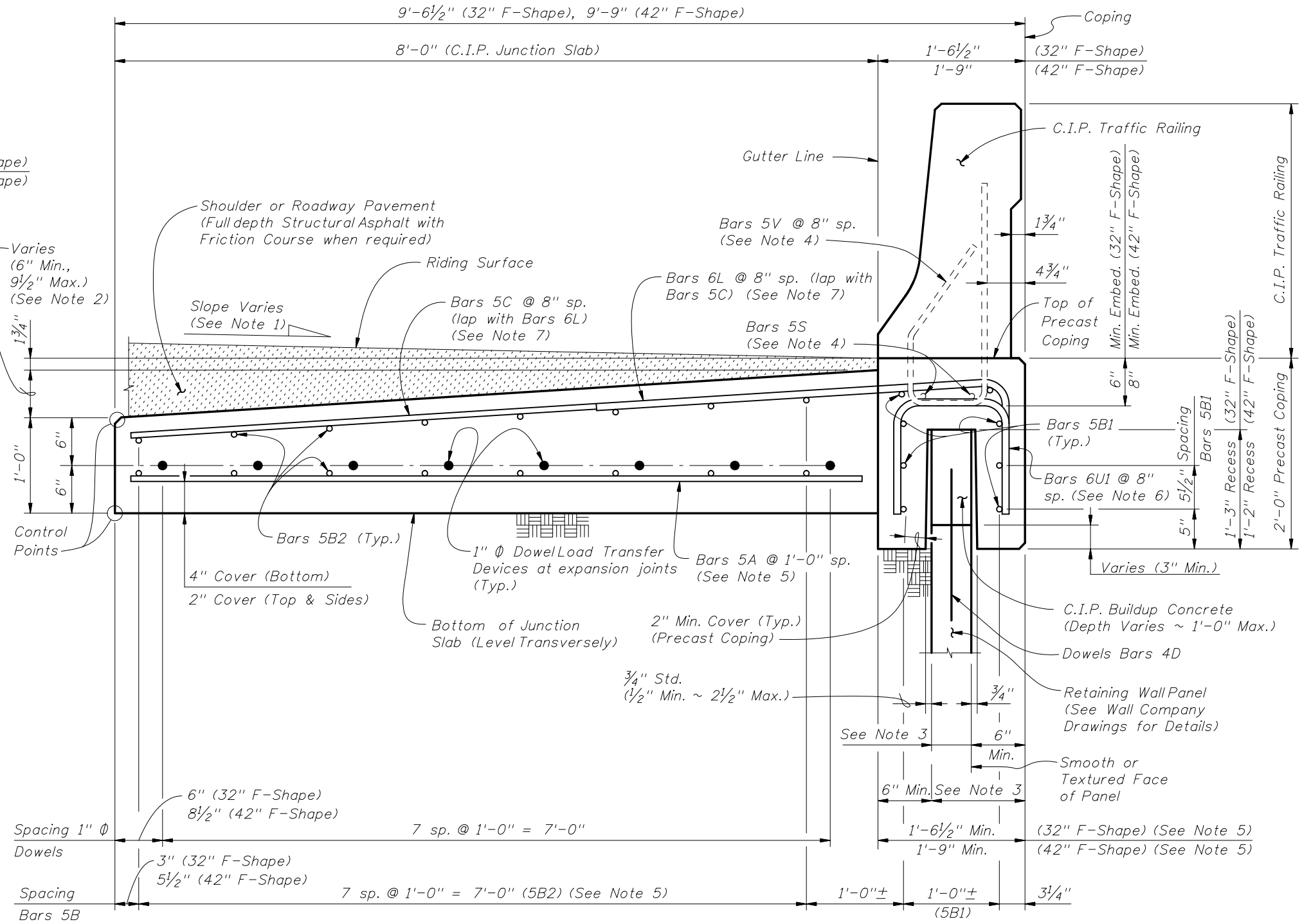


**PARTIAL END VIEW OF TRAFFIC RAILING END TRANSITION FOR GUARDRAIL ATTACHMENT (Showing Bars 5V and Bars 5S) (Precast Coping Shown, C.I.P. Coping Similar)**

NOTE: See Index No. 420 and Index No. 425, Detail "A" for details.

ESTIMATED QUANTITIES FOR PRECAST COPING		
ITEM	UNIT	QUANTITY
Concrete (Precast Coping)	CY	0.921
Concrete (C.I.P. Junction Slab)	CY/FT	0.370
Reinforcing Steel (Precast Coping) excluding Bars 5V and 5S (Typ.)	LB	282.04
Reinforcing Steel (C.I.P. Junction Slab) (Typ.)	LB/FT	36.68
Additional Reinf. @ Expansion Joints	LB	42.72

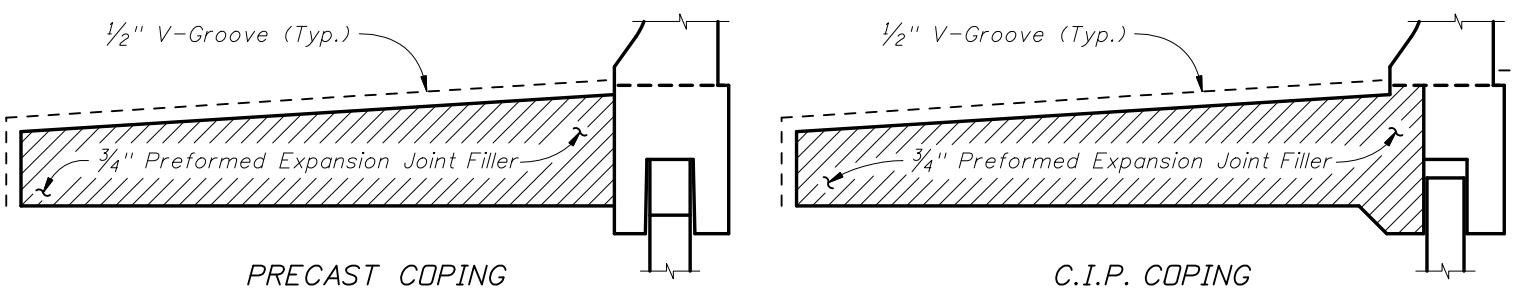
(The above concrete quantities are based on a superelevation of 6.25% and a 5" wide retaining wall panel, beneath a 32" F-Shape Traffic Railing. The above Precast Coping quantities are based on one 10'-0" Precast Coping segment.)



**TYPICAL SECTION THRU PRECAST COPING WITH C.I.P. JUNCTION SLAB AND RETAINING WALL AT EXPANSION JOINTS**

**JUNCTION SLAB NOTES:**

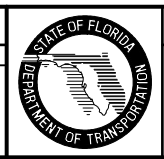
1. Match Cross Slope of Travel Lane or Shoulder.
2. The minimum dimension of 6" corresponds to a superelevation of 6.25%. For superelevations exceeding 6.25%, increase this dimension (i.e., shift control points down) as required to match roadway superelevation.
3. Actual width varies depending on type of Retaining Wall used.
4. See Index No. 420 and Index No. 425 for Bars 5S and 5V.
5. The Precast Coping width is based on a maximum 6 1/2" wide Retaining Wall Panel. If the Retaining Wall Panel is wider than 6 1/2", increase the width by the difference between the two Retaining Wall Panel widths. Increase the length of Bars 6L and decrease the length of Bars 5A & 5C as required when the coping width is increased and adjust spacing of Bars 5B2 as required to maintain 2" minimum cover.
6. Increase the width (1'-2 1/2") of Bars 6U1 as required to maintain 2" minimum cover when recess width exceeds 8".
7. At the Contractor's option, mechanical couplers may be used to splice reinforcing. Complete details, including reinforcement lengths are required in the Shop Drawings. Mechanical couplers shall develop 125% of the bar yield strength.



**DETAIL "A"**  
(Showing Locations of 1/2" V-Grooves and 3/4" Preformed Expansion Joint Filler)

**PRECAST OR C.I.P. COPING WITH C.I.P. JUNCTION SLAB DETAILS (F-SHAPE TRAFFIC RAILINGS)**

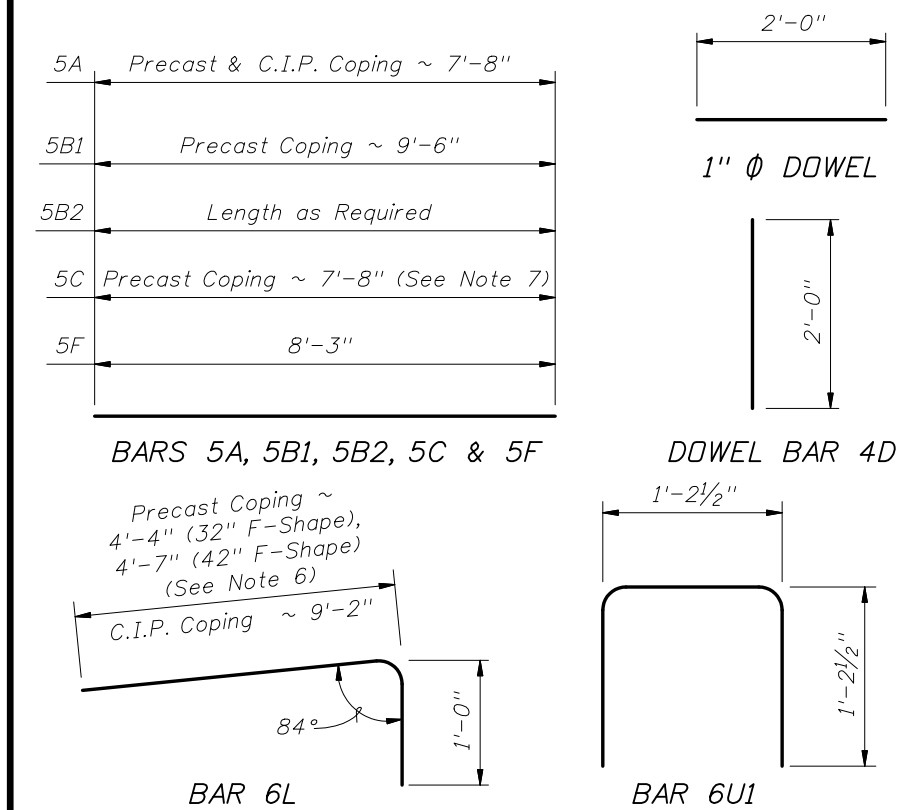
REVISIONS				
DATE	BY	DESCRIPTION	DATE	BY
01/01/08	SJN	Changed "Shoulder or Roadway Pavement" note; and "6" to "6" Min.;" and "3/4" Std. (1/2" Min. ~ 1/4" Max.)" to "3/4" Std. (1/2" Min. ~ 2 1/2" Max.)" in TYPICAL SECTION detail.		



REINFORCING STEEL BENDING DIAGRAMS - JUNCTION SLAB

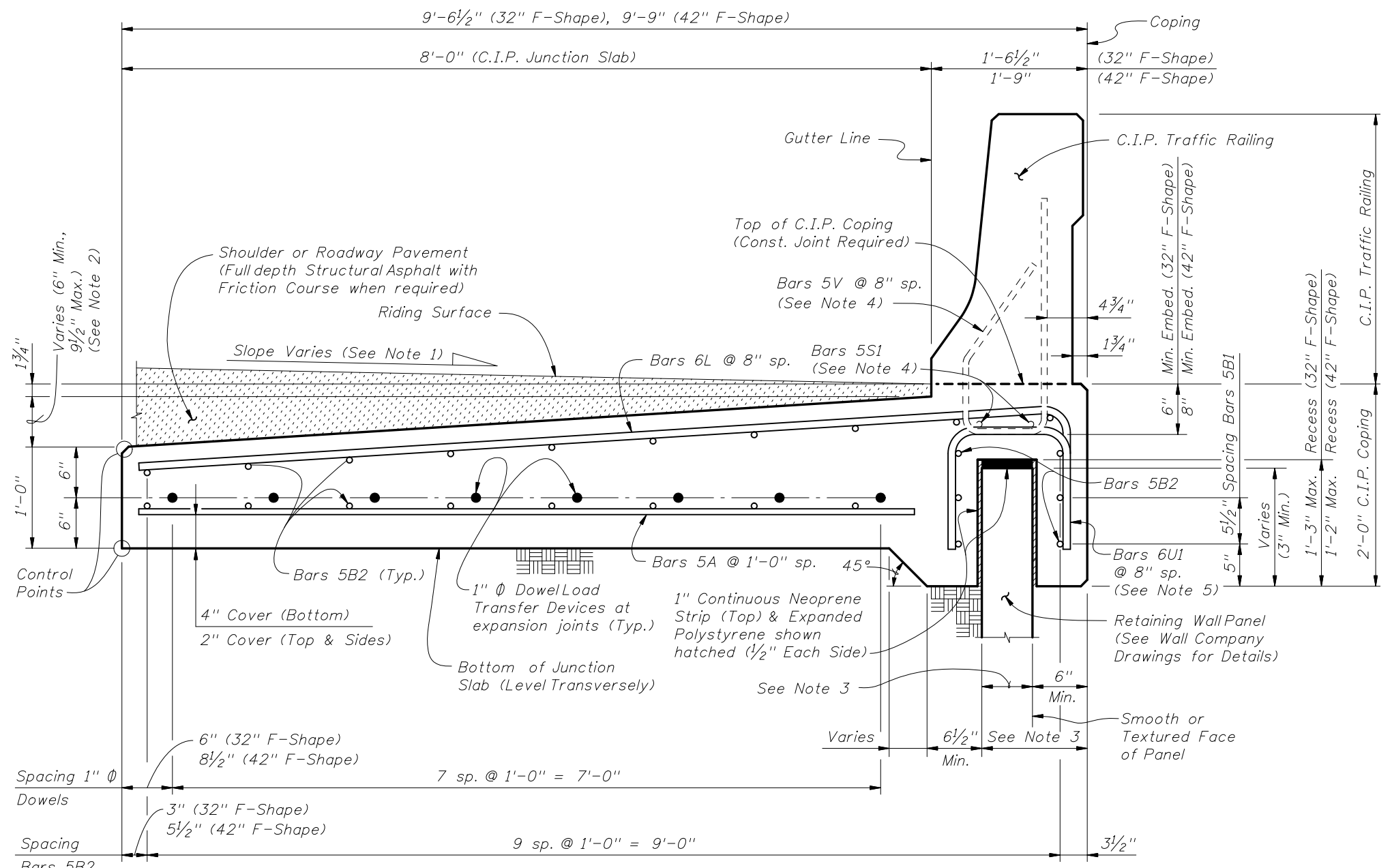
BILL OF REINFORCING STEEL

MARK	SIZE	LENGTH		
		PRECAST COPING		C.I.P. COPING
		(32" F-SHAPE)	(42" F-SHAPE)	
A	5	7'-8"	7'-8"	7'-8"
B1	5	9'-6"	9'-6"	N/A
B2	5	AS REQD.	AS REQD.	AS REQD.
C	5	7'-8"	7'-8"	N/A
D	4	2'-0"	2'-0"	N/A
F	5	8'-3"	8'-3"	8'-3"
L	6	5'-4"	5'-7"	10'-2"
U1	6	3'-8"	3'-8"	3'-8"
1" $\phi$ Dowel	Smooth Steel Bar	2'-0"	2'-0"	2'-0"



REINFORCING STEEL NOTES:

- All bar dimensions in the bending diagrams are out to out.
- All reinforcing steel at expansion joints will have a 2" minimum cover.
- Lap splices for Bars 5B2 will be a minimum of 2'-2".
- For Precast Coping only, lap splice Bars 6L with Bars 5C. Lap splices will be a minimum of 2'-9".
- See Index No. 420 and Index No. 425 for Bars 5S and 5V.
- Dimension shown is for lap splice option. For mechanical coupler option, this dimension is 1'-4 1/2" (32" F-Shape) or 1'-7" (42" F-Shape).
- Dimension shown is for lap splice option. For mechanical coupler option, this dimension is 7'-9".
- The Contractor may use Welded Wire Reinforcement when approved by the Engineer. Welded Wire Reinforcement will conform to ASTM A 497.



TYPICAL SECTION THRU C.I.P. COPING AND JUNCTION SLAB AND RETAINING WALL AT EXPANSION JOINTS

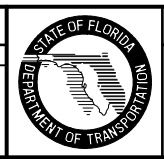
ESTIMATED QUANTITIES FOR C.I.P. COPING		
ITEM	UNIT	QUANTITY
Concrete	CY/Ft.	0.468
Reinforcing Steel (Typical) excluding Bars 5V and 5S (Typ.)	Lb./Ft.	64.20
Additional Reinf. @ Expansion Joint	Lb./Ft.	42.72

(The above concrete quantities are based on a superelevation of 6.25% and a 5" wide retaining wall panel, beneath a 32" F-Shape Traffic Railing.)

- JUNCTION SLAB NOTES:
- Match Cross Slope of Travel Lane or Shoulder.
  - The minimum dimension of 6" corresponds to a superelevation of 6.25%. For superelevations exceeding 6.25%, increase this dimension (i.e., shift control points down) as required to match roadway superelevation.
  - Actual width varies depending on type of Retaining Wall used.
  - See Index No. 420 and Index No. 425 for Bars 5S and 5V.
  - Increase the width (1'-2 1/2") of Bars 6U1 as required to maintain 2" minimum cover when recess width exceeds 8".

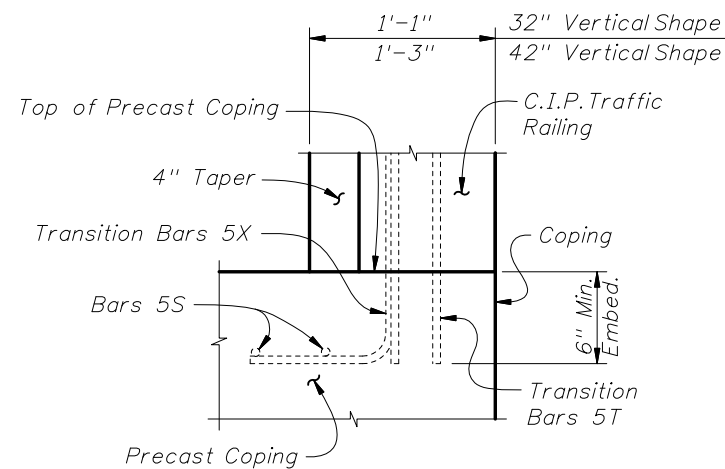
PRECAST OR C.I.P. COPING WITH C.I.P. JUNCTION SLAB DETAILS (F-SHAPE TRAFFIC RAILINGS)

REVISIONS				
DATE	BY	DESCRIPTION	DATE	BY
01/01/08	SJN	Changed "Shoulder or Roadway Pavement" note; and "6" to "6" Min." in TYPICAL SECTION detail.		



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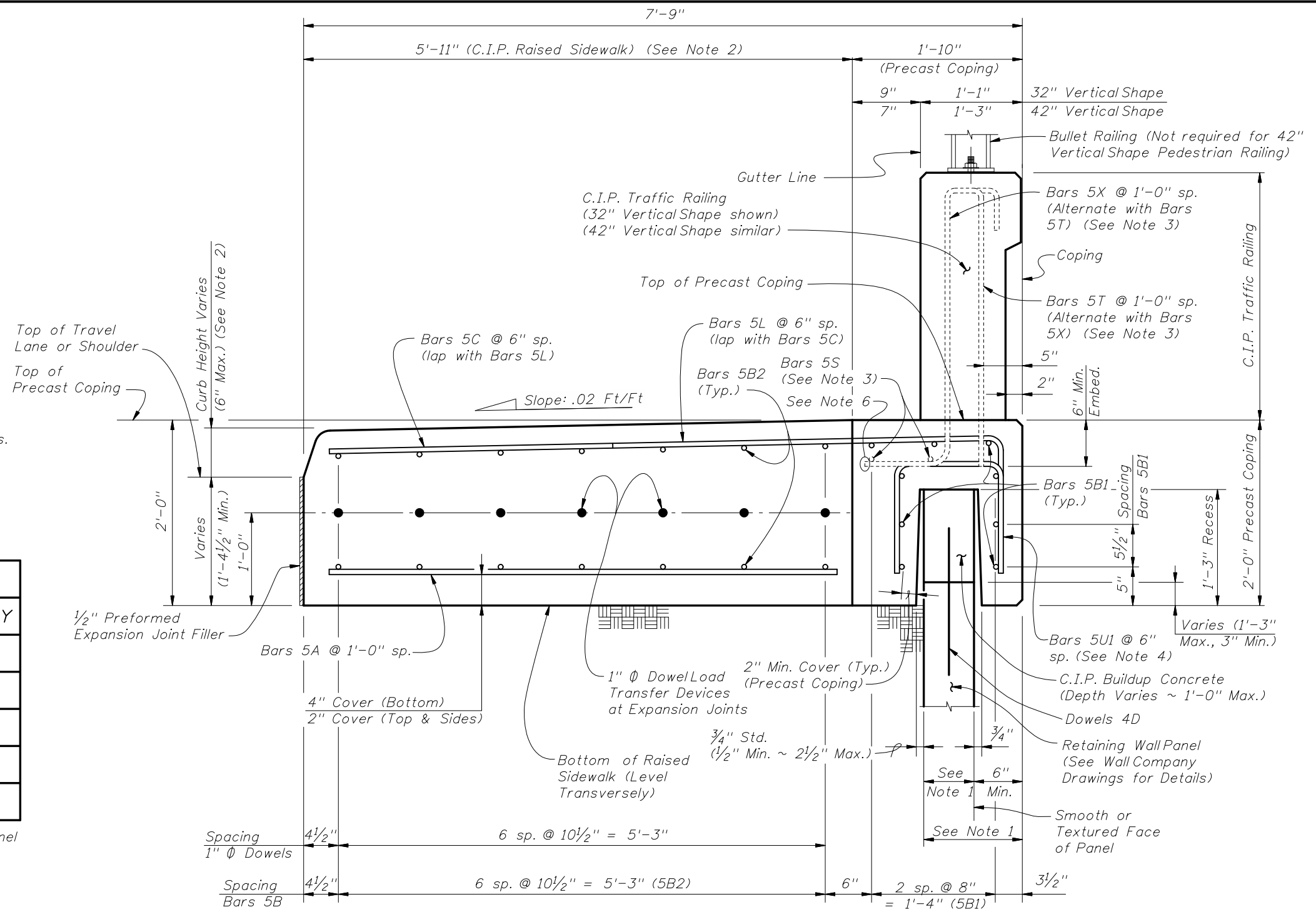


**PARTIAL END VIEW OF TRAFFIC RAILING END TRANSITION FOR GUARDRAIL ATTACHMENT**  
 (Showing Bars 5S, Bars 5T and Bars 5X)  
 (Precast Coping Shown, C.I.P. Coping Similar)

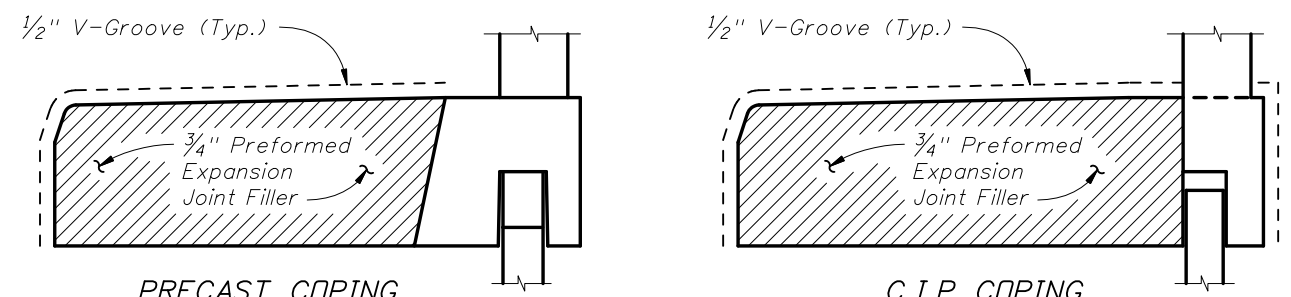
NOTE: See Index No. 422 and Index No. 423, Railing End Detail for details.

ESTIMATED QUANTITIES FOR PRECAST COPING		
ITEM	UNIT	QUANTITY
Concrete (Precast Coping)	CY	1.136
Concrete (C.I.P. Raised Sidewalk)	CY/Ft.	0.424
Reinforcing Steel (Precast Coping) excluding Bars 5T, 5X and 5S (Typ.)	Lb.	269.96
Reinforcing Steel (C.I.P. Raised Sidewalk) (Typ.)	Lb./Ft.	31.73
Additional Reinf. @ Expansion Joints	Lb.	37.38

(The above concrete quantities are based on a 5" wide retaining wall panel and a Type D Concrete Curb (See Note 2). The above Precast Coping quantities are based on one 10'-0" Precast Coping segment.)



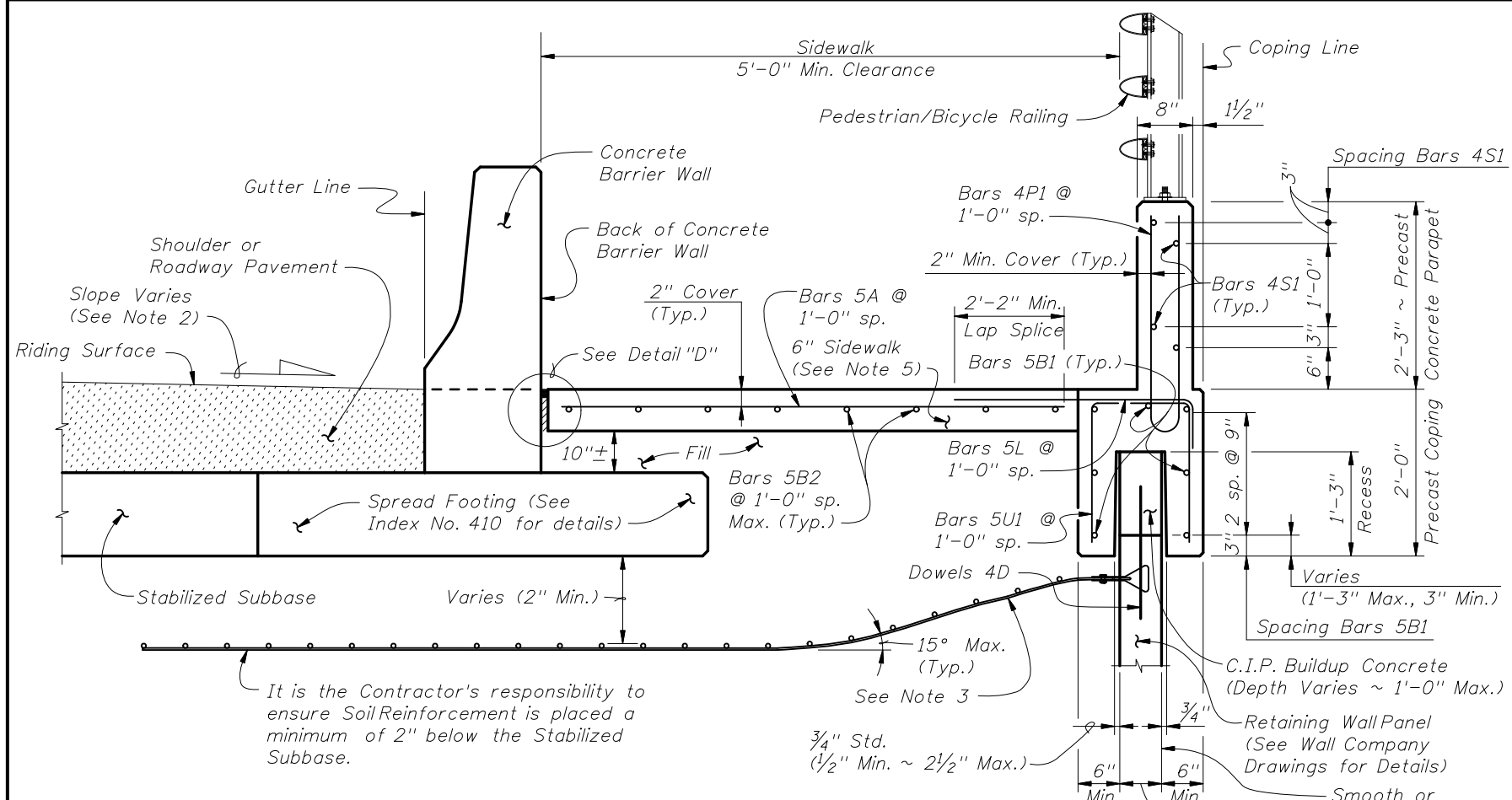
**TYPICAL SECTION THRU PRECAST COPING WITH C.I.P. RAISED SIDEWALK AND RETAINING WALL AT EXPANSION JOINTS**



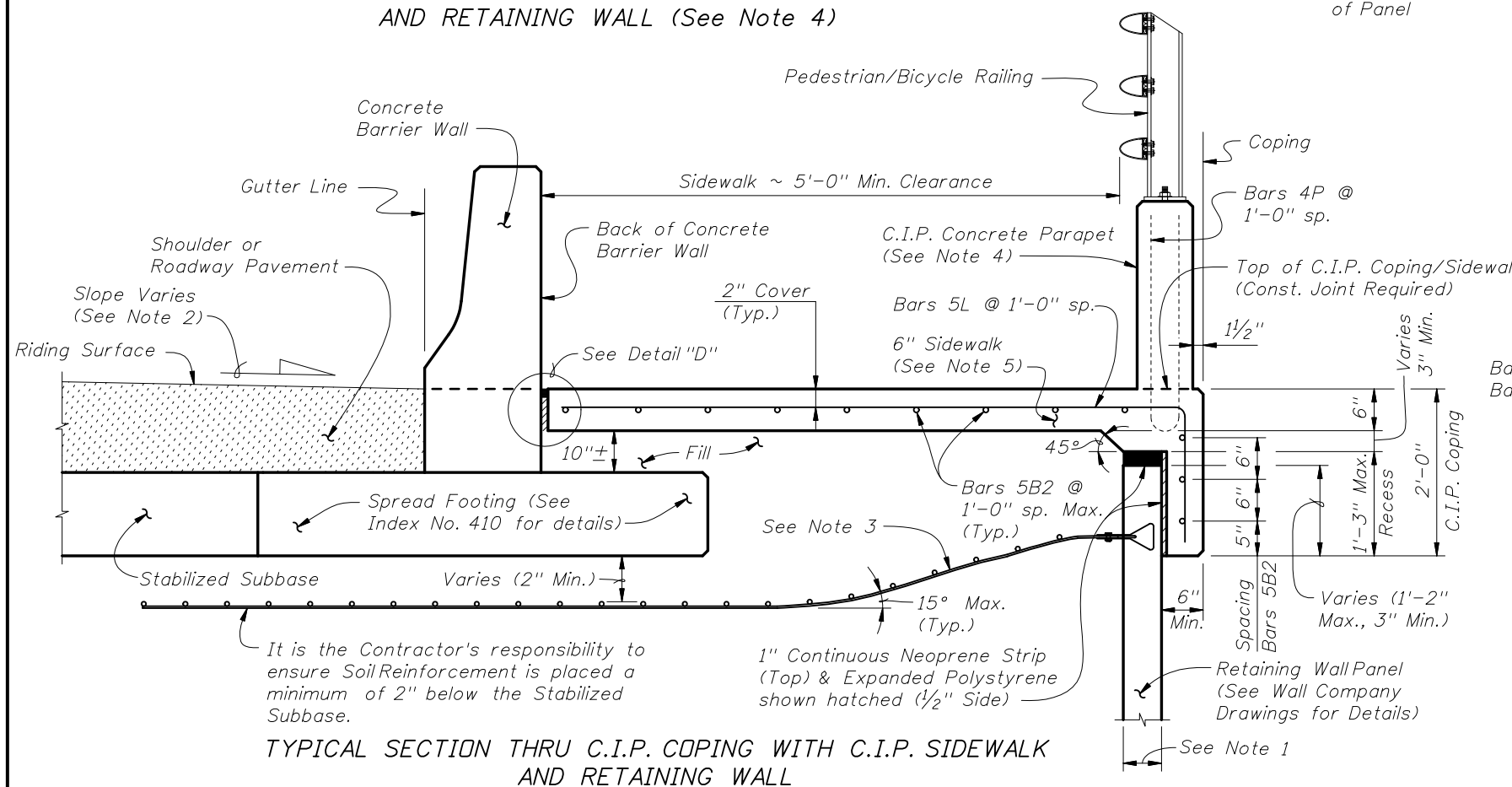
**DETAIL "B"**  
 (Showing Locations of 1/2" V-Grooves and 3/4" Preformed Expansion Joint Filler)

- RAISED SIDEWALK NOTES:**
- Actual width varies depending on type of Retaining Wall used.
  - Match roadway curb shape (Type) and height. See Roadway Plans and Index No. 300. 5'-11" dimension is based on a 32" Vertical Shape Traffic Railing with a Type D curb adjacent to a 6'-0" wide sidewalk. Adjust this dimension as required for other curb types or transitions at Begin or End Retaining Wall.
  - See Index No. 422 and Index No. 423 for Bars 5S, 5T & 5X and Bullet Railing details. Adjust vertical dimension of Bars 5T and 5X, see Reinforcing Steel Note 5.
  - Increase the width (1'-2 1/2") of Bars 5U1 as required to maintain 2" minimum cover when recess width exceeds 8".
  - At the Contractor's option, mechanical couplers may be used to splice reinforcing. Complete details, including reinforcement lengths are required in the Shop Drawings. Mechanical couplers shall develop 125% of the bar yield strength.
  - Trim end of Bars 5T and 5X to clear construction joint for 42" Vertical Shape Traffic Railing.

**PRECAST OR C.I.P. COPING WITH C.I.P. RAISED SIDEWALK DETAILS (VERTICAL SHAPE TRAFFIC RAILINGS)**



TYPICAL SECTION THRU PRECAST COPING/PARAPET WITH C.I.P. SIDEWALK AND RETAINING WALL (See Note 4)

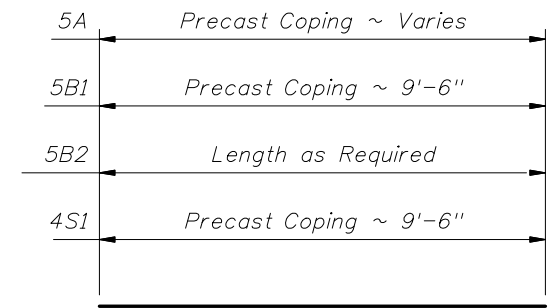


TYPICAL SECTION THRU C.I.P. COPING WITH C.I.P. SIDEWALK AND RETAINING WALL

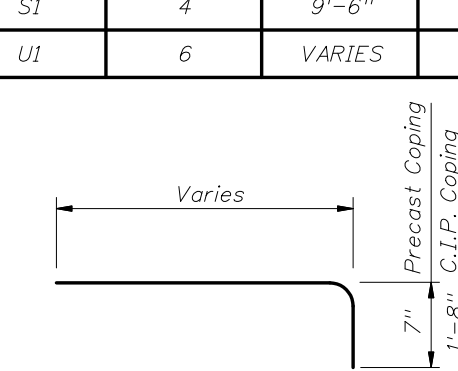
REINFORCING STEEL BENDING DIAGRAMS - COPING/PARAPET AND SIDEWALK

BILL OF REINFORCING STEEL

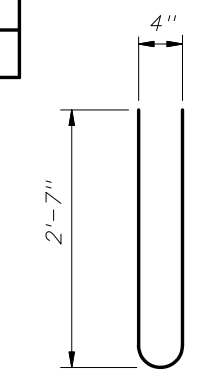
MARK	SIZE	LENGTH	
		PRECAST COPING	C.I.P. COPING
A	5	VARIABLES	N/A
B1	5	9'-6"	N/A
B2	5	AS REQD.	AS REQD.
D	4	2'-0"	N/A
L	5	VARIABLES	VARIABLES
P1	4	5'-5"	N/A
S1	4	9'-6"	N/A
U1	6	VARIABLES	N/A



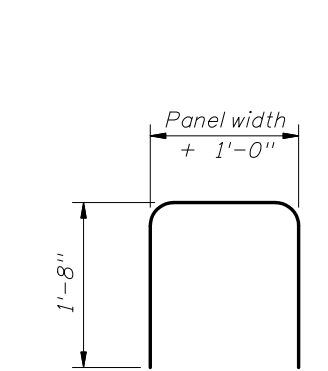
BARS 5A, 5B1, 5B2 & 4S1



BAR 5L



BAR 4P1



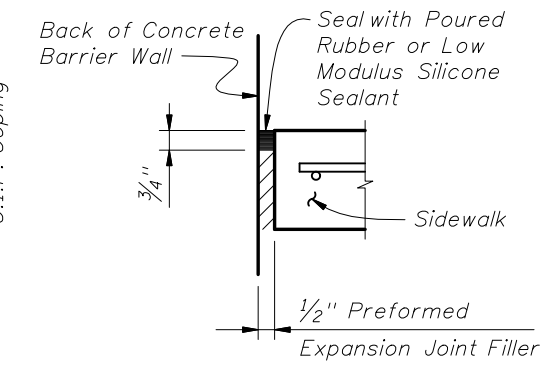
BAR 5U1

REINFORCING STEEL NOTES:

1. All bar dimensions in the bending diagrams are out to out.
2. All reinforcing steel at expansion joints will have a 2" minimum cover.
3. Lap splices for Bars 5B2 will be a minimum of 2'-2".
4. For Precast Coping only, lap splice Bars 5L with Bars 5A. Lap splices will be a minimum of 2'-2".
5. For C.I.P. only, see Index No. 820 for Bars 4P and 4S.
6. The Contractor may use Welded Wire Reinforcement when approved by the Engineer. Welded Wire Reinforcement will conform to ASTM A 497.

PRECAST COPING/PARAPET AND SIDEWALK NOTES:

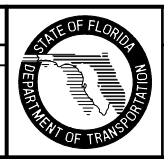
1. Actual width varies depending on type of Retaining Wall used.
2. Match Cross Slope of Travel Lane or Shoulder.
3. Gradually deflect/displace Soil Reinforcement downward as required. Soil Reinforcement is shown deflected downward for illustrative purposes only and is not to scale. See Wall Company Drawings for details.
4. C.I.P. Concrete Parapet shown, Vertical Shape Traffic Railing similar. Complete details and dimensions of Vertical Traffic Railings are required in the Shop Drawings.
5. Match cross slope of connecting sidewalk or as shown in the Wall Control Drawings.



DETAIL "D"

PRECAST COPING/PARAPET OR C.I.P. COPING WITH C.I.P. SIDEWALK DETAILS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
01/01/08	TJB	Changed "6" to "6" Min." and "3/4" Std. (1/2" Min. ~ 1/4" Max.)" to "3/4" Std. (1/2" Min. ~ 2 1/2" Max.)" in TYPICAL SECTION details.			



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