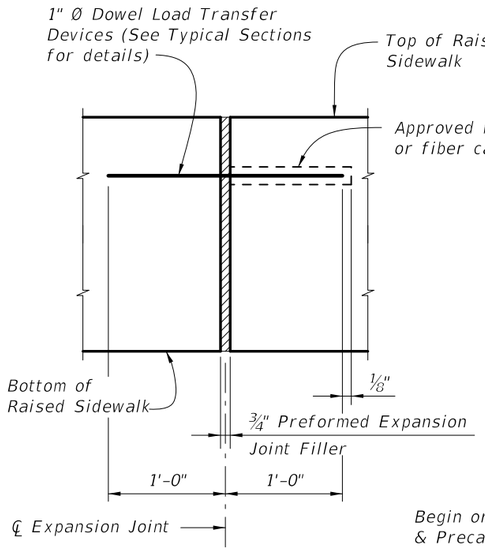
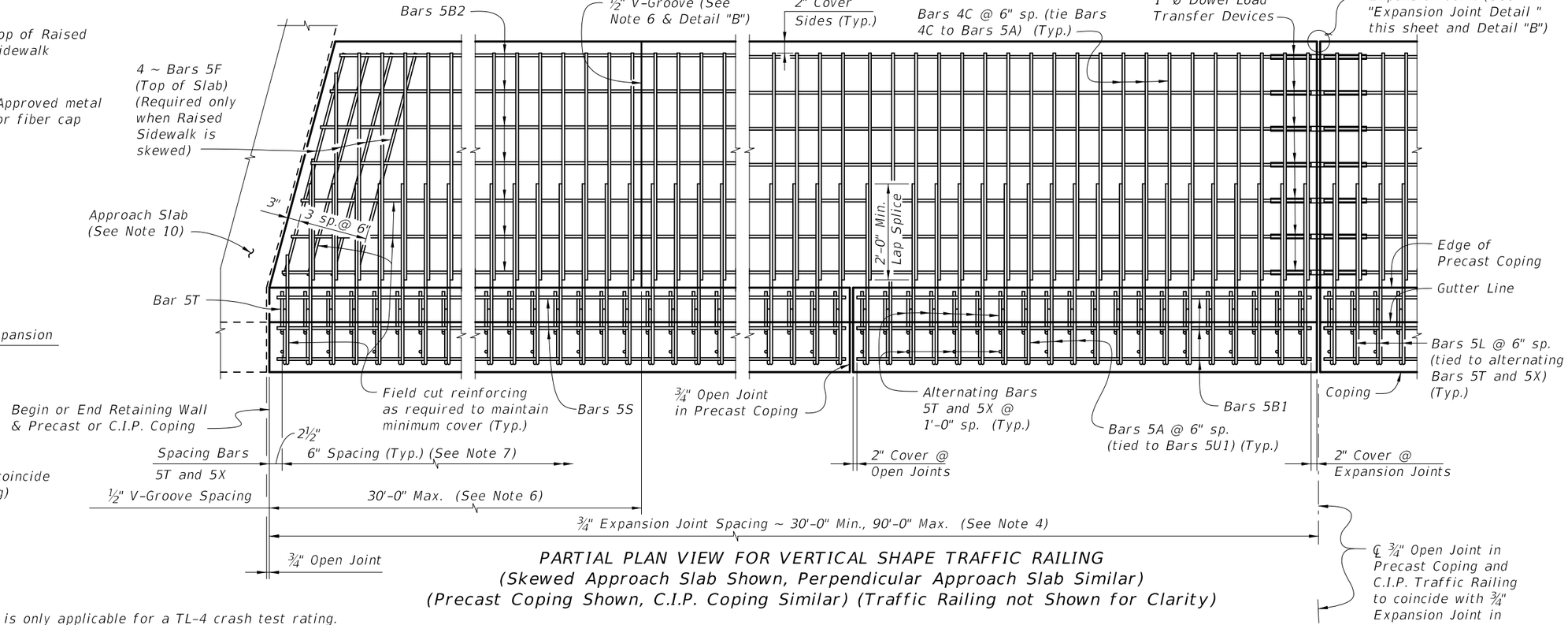


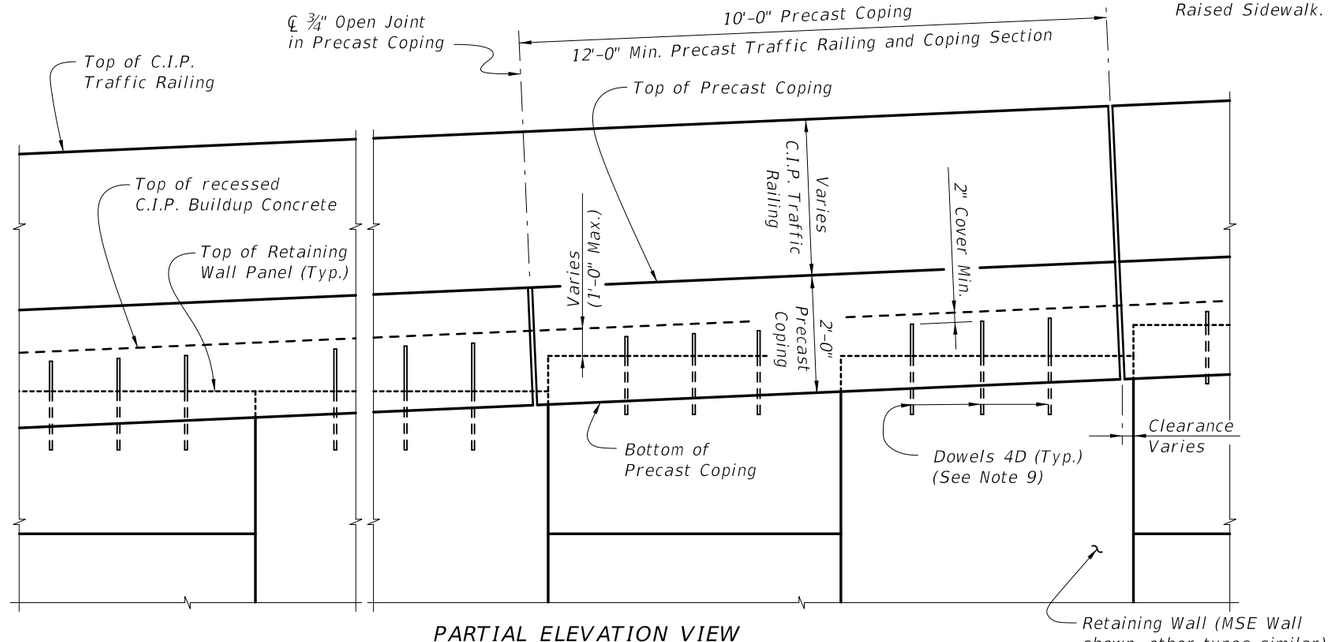
EXPANSION JOINT DETAIL

(Raised Sidewalk expansion joints are to coincide with ¾" open joints in Traffic Railing)



PARTIAL PLAN VIEW FOR VERTICAL SHAPE TRAFFIC RAILING

(Skewed Approach Slab Shown, Perpendicular Approach Slab Similar)
(Precast Coping Shown, C.I.P. Coping Similar) (Traffic Railing not Shown for Clarity)



PARTIAL ELEVATION VIEW

(Precast Coping & Raised Sidewalk Reinforcing not Shown for Clarity)
(Precast Coping Shown, C.I.P. Coping Similar)

RAISED SIDEWALK NOTES:

1. APPLICATIONS: This raised sidewalk is only applicable for a TL-4 crash test rating. For TL-5 crash test rating increase Expansion Joint spacing to 60'-0" minimum and Bars 4C to Bars 5C or provide Bars 4C @ 4" spacing with the 42" Vertical Shape Traffic Railing.
2. CONSTRUCTION REQUIREMENTS: Construct the raised sidewalk level transversely and expansion joints plumb; do not construct the raised sidewalk or C.I.P. coping perpendicular to the roadway surface. Slip forming is not permitted.
3. Provide Class II concrete for slightly aggressive environments or Class IV for moderately or extremely aggressive environments.
4. Dowel Load Transfer Devices will be ASTM A 36 smooth round bar and hot-dip galvanized in accordance with Specification Section 962. Install Dowel Load Transfer Devices in accordance with Specification Section 350.
5. Construct ¾" Expansion Joints in raised sidewalk and C.I.P. copings plumb and perpendicular or radial to the Gutter Line. Provide at 90'-0" maximum intervals as shown.
6. Provide and install Preformed Expansion Joint Filler in accordance with Specification Section 932.
7. Construct ½" V-Grooves in raised sidewalk and C.I.P. coping plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between ¾" Expansion Joints and/or Begin or End Raised Sidewalk. V-Groove locations are to coincide with V-Groove locations in the Traffic Railing.
8. Spacing shown is along the Gutter Line.
9. For MSE Walls, provide Dowel Bars 4D and extend 8" above the top of retaining wall panel. Field cut as necessary to maintain 2" minimum cover to the top of the buildup concrete. See Wall Company Drawings for number and spacing of Dowel Bars 4D.
10. Finish Sidewalks in accordance with Specification Section 522.
11. Work this Index with the following:
    Index No. 422 – Traffic Railing – (42" Vertical Shape)
    Index No. 423 – Traffic Railing – (32" Vertical Shape)
12. The following Indexes contain details of the intersection of the retaining wall at approach slabs:
    Index No. 20900 – Approach Slabs (Flexible Pavement Approaches)
    Index No. 20910 – Approach Slabs (Rigid Pavement Approaches)

CROSS REFERENCE: For Detail "B", see Sheet 2.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
01/01/11	SJN	New Index No. & Title (Previously Index No. 5300, Sheet 11 of 19); Changed Notes 1 & 9; Added Notes 3 & 10. Redesigned Raised Sidewalk.			

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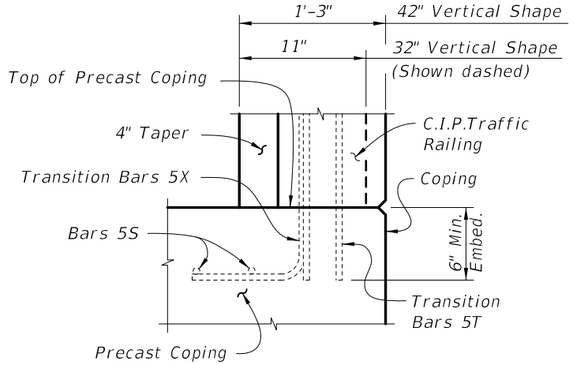
Index No. 6120

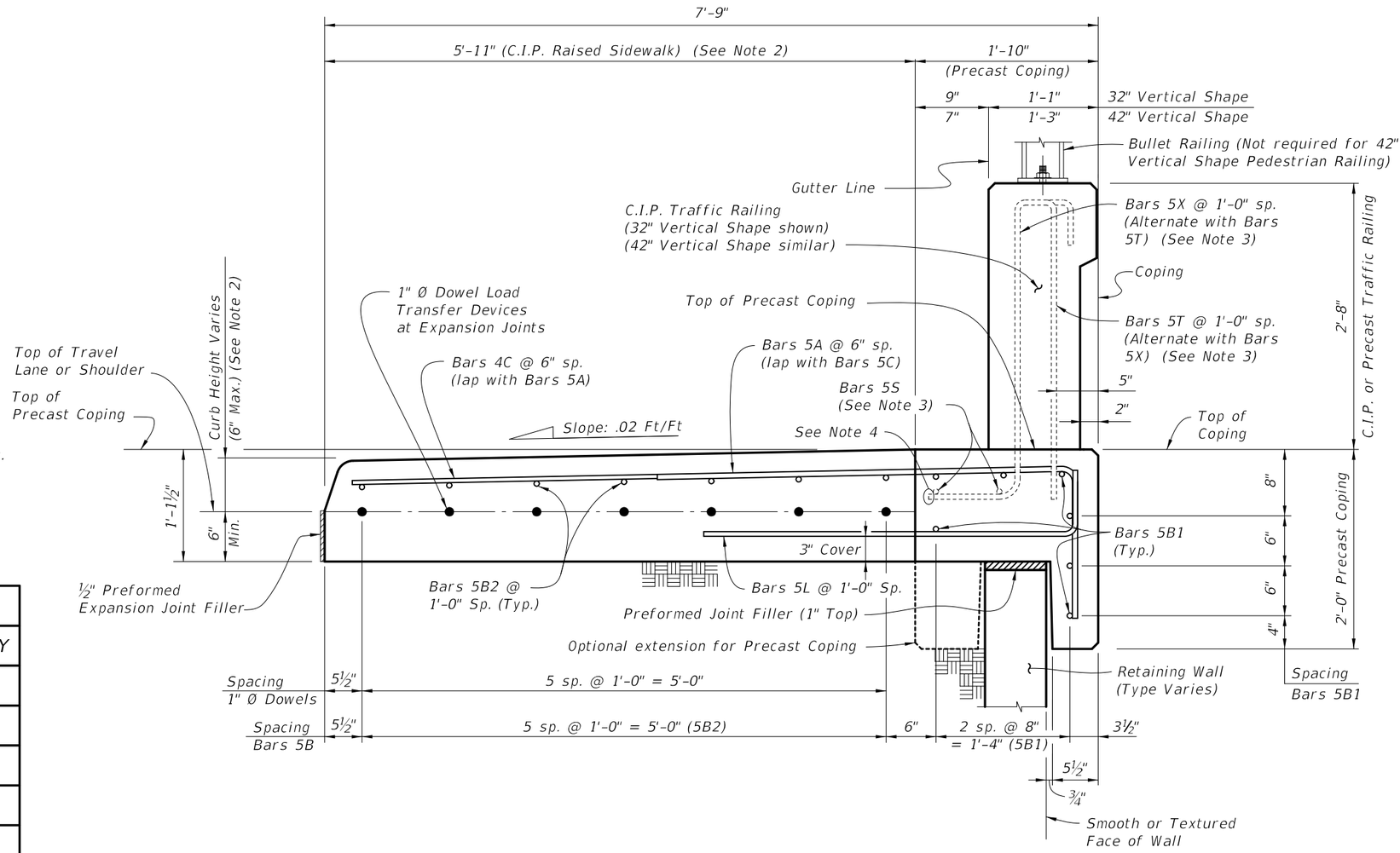


PARTIAL END VIEW OF TRAFFIC RAILING END TRANSITION FOR GUARDRAIL ATTACHMENT (Showing Bars 5S, Bars 5T and Bars 5X) (Precast Coping Shown, C.I.P. Coping Similar)

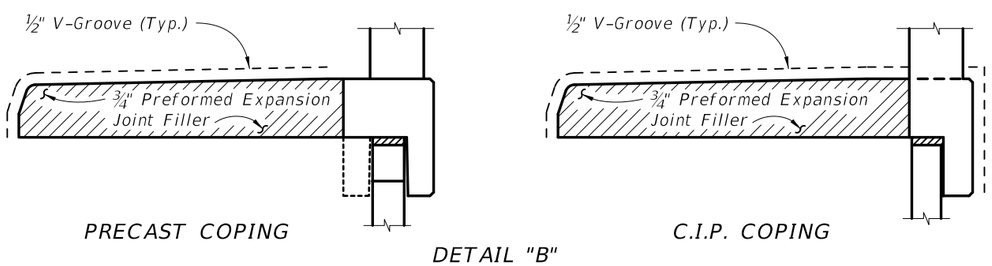
NOTE: See Index No. 422 and Index No. 423, Railing End Detail for details.

ESTIMATED QUANTITIES FOR PRECAST COPING		
ITEM	UNIT	QUANTITY
Concrete (Precast Coping)	CY/FT	0.091
Concrete (C.I.P. Raised Sidewalk)	CY/FT	0.232
Reinforcing Steel (Precast Coping) excluding Bars 5T, 5X and 5S (Typ.)	LB	21.47
Reinforcing Steel (C.I.P. Raised Sidewalk) (Typ.)	LB/FT	11.92
Additional Reinf. @ Expansion Joints	LB	32.04

The above concrete quantities are based on a Type D Concrete Curb (See Note 2).



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



DETAIL "B"

(Showing Locations of ½" V-Grooves and ¾" Preformed Expansion Joint Filler)

RAISED SIDEWALK NOTES:

1. Actual width varies depending on type of Retaining Wall used.
2. 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.
3. 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.
4. Trim end of Bars 5T and 5X to clear construction joint for 42" Vertical Shape Traffic Railing.
5. 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.
6. Contractor to maintain stability of precast coping prior to junction slab completion.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
01/01/11	SJN	New Index No. & Title (Previously Index No. 5300, Sheet 12 of 19); Deleted Note 1 & 4; Redesigned Raised Sidewalk.			

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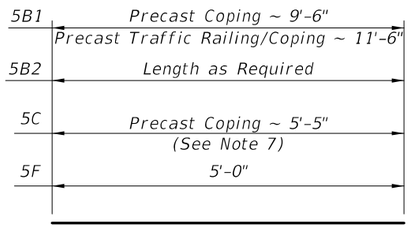
Index No. 6120

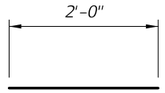
REINFORCING STEEL BENDING DIAGRAMS - RAISED SIDEWALK

BILL OF REINFORCING STEEL

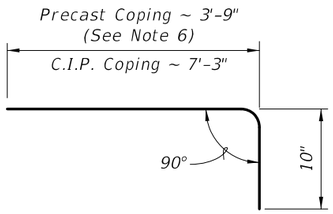
MARK	SIZE	LENGTH	
		PRECAST COPING/ RAILING	C.I.P. COPING
A	5	4'-7"	8'-1"
B1	5	9'-6"/11'-6"	N/A
B2	5	AS REQD.	AS REQD.
C	4	5'-5"	N/A
F	5	5'-0"	5'-0"
L	5	4'-5"	4'-5"
1" Ø Dowel	Smooth Steel Bar	2'-0"	2'-0"



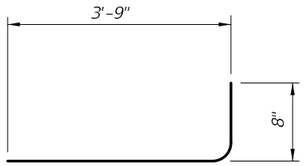
BARS 5B1, 5B2, 5C & 5F



1" Ø DOWEL



BAR 5A



BAR 5L

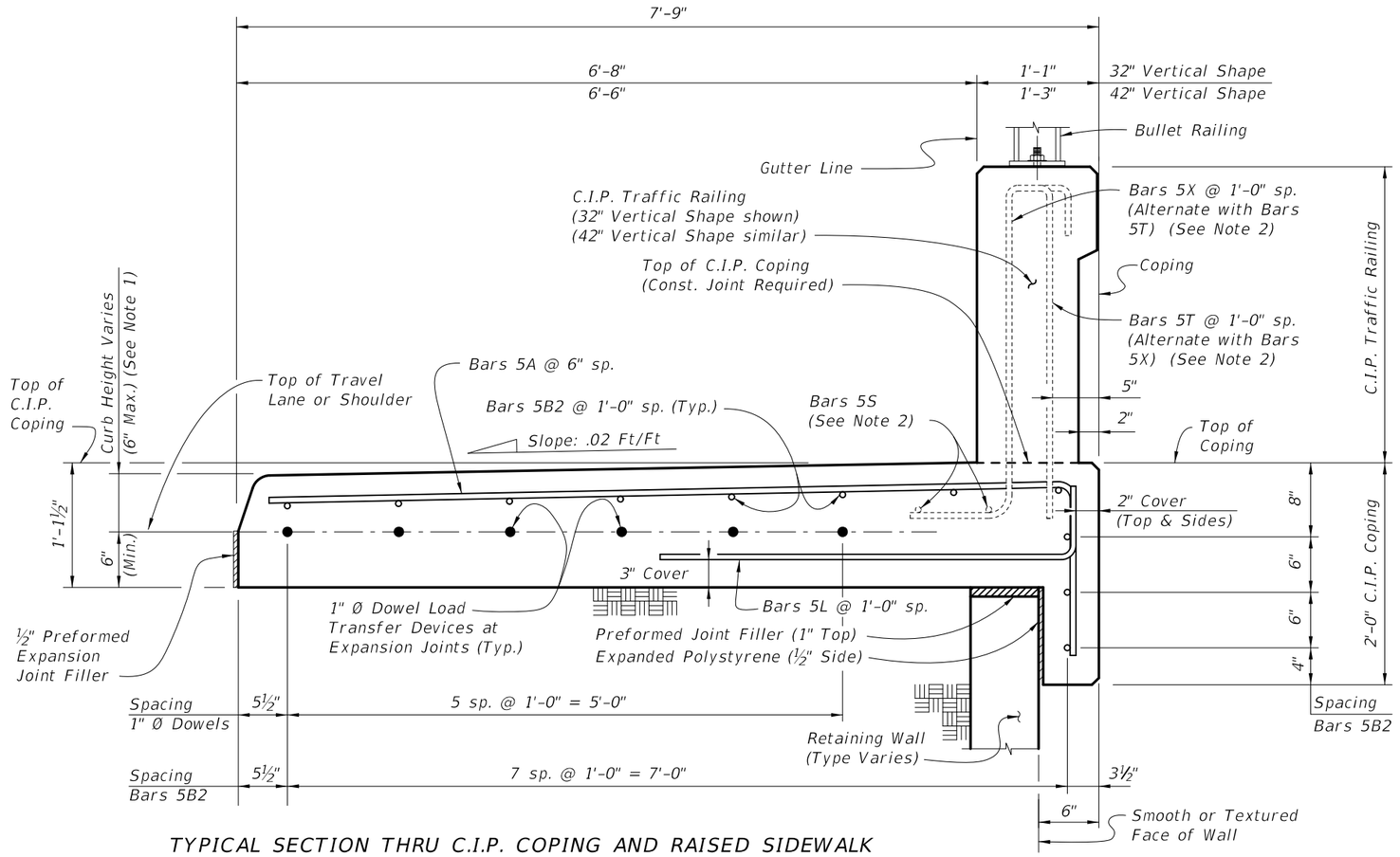
REINFORCING STEEL NOTES:

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 5B will be a minimum of 2'-2".
4. Lap splice Bars 5A with Bars 5C. Lap splices will be a minimum of 2'-2".
5. See Index No. 422 and Index No. 423 for Bars 5S, 5T and 5X. Adjust vertical dimensions of Stirrup Bars 5T and 5X to 3'-0" for 32" Vertical Shape or 3'-10" for 42" Vertical Shape.
6. Dimension shown is for lap splice option. For mechanical coupler option, this dimension is 1'-8".
7. Dimension shown is for lap splice option. For mechanical coupler option, this dimension is 5'-8".
8. The Contractor may use Welded Wire Reinforcement when approved by the Engineer. Welded Wire Reinforcement will conform to ASTM A 497.

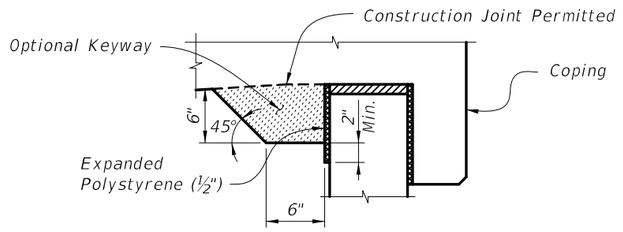
ESTIMATED QUANTITIES FOR C.I.P. COPING

ITEM	UNIT	QUANTITY
Concrete	CY/FT	0.322
Reinforcing Steel (Typical) excluding Bars 5T, 5X and 5S (Typ.)	LB/FT	28.33
Additional Reinf. @ Expansion Joints	LB	32.04

The above concrete quantities are based on a Type D Concrete Curb (See Note 1).



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



OPTIONAL C-I-P COPING KEYWAY

RAISED SIDEWALK NOTES:

1. Match roadway curb shape (Type) and height. See Roadway Plans and Index No. 300. 6'-8" 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.
2. 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.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
01/01/11	SJN	New Index No. & Title (Previously Index No. 5300, Sheet 13 of 19), Redesigned Raised Sidewalk; Deleted Note 1 & 4.			

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