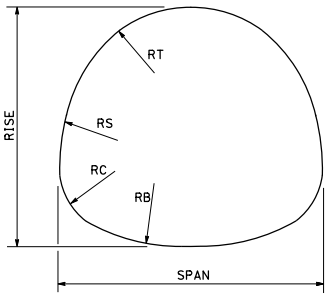


DESIGN NOTES:

Design: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments.

Soil: γ = 140 pcf

Reinforced Concrete: f_y = 60 ksi
n = 8
f'_c = 3.6 ksi

Structural Steel Plate: 6" x 2" Annular Corrugations
f_y = 33 ksi
Specified thickness includes galvanization

NOTES:

1. For strutting requirements of structural steel plate vehicular undercrossing during construction, see Standard Plan D88A.
2. Minimum cover from crown to shoulder hinge point = 5'-0".
3. Backfill shall be brought up uniformly on both sides of the structure.
4. Minimum cover for construction loading, see Standard Plan D88.

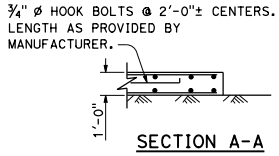
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

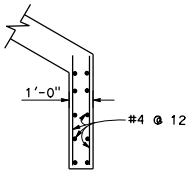
October 30, 2015
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Carl M. Duan No. C59976 Exp. 6-30-16 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

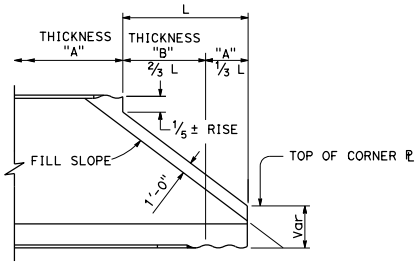


SECTION A-A



DETAIL B

NOTE:
Reinforce both faces of concrete collar with #4 @ 12 both ways. Maximum skew is 35°.

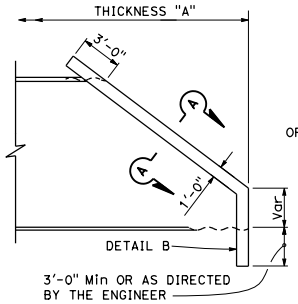


SIDE ELEVATION

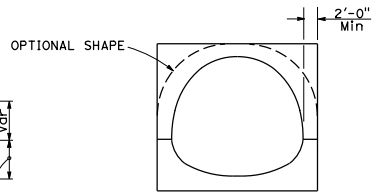
NOTE:
Thickness "B" two thicknesses greater than thickness "A" except for 0.249" and 0.280" thicknesses.

Skew-bevels not permitted with Alternative 1. Cutoff dimensions are approximate only and may be varied by fabricator to suit plate layout.

ALTERNATIVE 1



SIDE ELEVATION



END ELEVATION

ALTERNATIVE 2

END BEVELS

MAXIMUM HEIGHT OF FILL										LAYOUT DATA			
GAGE		12	10	12	10	8	5	3	1				
THICKNESS		0.110"	0.140"	0.110"	0.140"	0.170"	0.218"	0.249"	0.280"				
SPAN	RISE	SOIL PRESSURE 6.0 ksf		FOR SOIL PRESSURES SEE TABLE A						RT	RS	RC	RB
12'-2"	11'-0"	14.0'	14.0'	14.0'	25.0'	31.0'	44.0'	53.0'	58.0'	5'-8"	7'-9"	3'-2"	11'-2"
12'-11"	11'-3"	13.0'	13.0'	13.0'	24.0'	29.0'	42.0'	49.0'	55.0'	6'-1"	7'-11"	3'-2"	12'-0"
13'-2"	11'-11"	13.0'	13.0'	13.0'	23.0'	28.0'	41.0'	48.0'	54.0'	6'-1"	8'-7"	3'-2"	13'-3"
13'-10"	12'-3"	12.0'	12.0'	12.0'	22.0'	27.0'	39.0'	46.0'	51.0'	6'-5"	9'-0"	3'-2"	13'-8"
14'-1"	12'-10"	12.0'	12.0'	12.0'	21.0'	26.0'	38.0'	45.0'	50.0'	6'-5"	9'-7"	3'-2"	15'-2"
14'-6"	13'-6"	11.0'	11.0'	11.0'	20.0'	25.0'	37.0'	44.0'	48.0'	6'-6"	10'-11"	3'-2"	14'-6"
14'-10"	14'-0"	11.0'	11.0'	11.0'	20.0'	24.0'	36.0'	42.0'	47.0'	6'-7"	11'-4"	3'-2"	16'-0"
15'-6"	14'-4"	10.0'	10.0'	10.0'	19.0'	23.0'	34.0'	40.0'	45.0'	7'-0"	11'-6"	3'-2"	16'-9"
15'-9"	15'-1"	10.0'	10.0'	10.0'	18.0'	22.0'	33.0'	40.0'	44.0'	6'-11"	12'-6"	3'-2"	17'-8"
16'-4"	15'-5"	9.0'	9.0'	9.0'	18.0'	22.0'	32.0'	38.0'	42.0'	7'-2"	13'-1"	3'-2"	17'-11"
16'-5"	16'-1"	8.0'	8.0'	8.0'	17.0'	21.0'	31.0'	37.0'	41.0'	7'-4"	13'-2"	3'-2"	22'-7"
16'-9"	16'-3"	8.0'	8.0'	9.0'	17.0'	20.0'	30.0'	36.0'	40.0'	7'-5"	13'-11"	3'-2"	20'-7"
17'-3"	17'-0"	11.0'	11.0'	8.0'	16.0'	20.0'	29.0'	36.0'	39.0'	7'-6"	14'-6"	3'-11"	17'-11"
18'-4"	16'-11"	10.0'	10.0'	6.0'	15.0'	19.0'	28.0'	33.0'	37.0'	8'-3"	13'-1"	3'-11"	20'-9"
19'-2"	17'-2"		9.0'		14.0'	18.0'	26.0'	32.0'	35.0'	8'-9"	13'-0"	3'-11"	22'-0"
19'-6"	17'-7"	*	9.0'	*	14.0'	17.0'	25.0'	31.0'	34.0'	8'-11"	13'-2"	3'-11"	24'-9"
20'-4"	17'-10"		9.0'		13.0'	16.0'	24.0'	29.0'	32.0'	9'-5"	13'-0"	3'-11"	26'-2"

* - Strutting required. See Note 1.

TABLE A						
GAGE	12	10	8	5	3	1
THICKNESS	0.110"	0.140"	0.170"	0.218"	0.249"	0.280"
SPANS	STRENGTH I SOIL PRESSURE (ksf)					
12'-2" TO 16'-9"	6.0	10.0	12.0	17.0	20.0	22.0
17'-3" TO 20'-4"	4.9	8.1	9.7	13.7	16.2	17.8

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL PLATE VEHICULAR UNDERCROSSING

NO SCALE

B14-1

2015 STANDARD PLAN B14-1

9-22-15