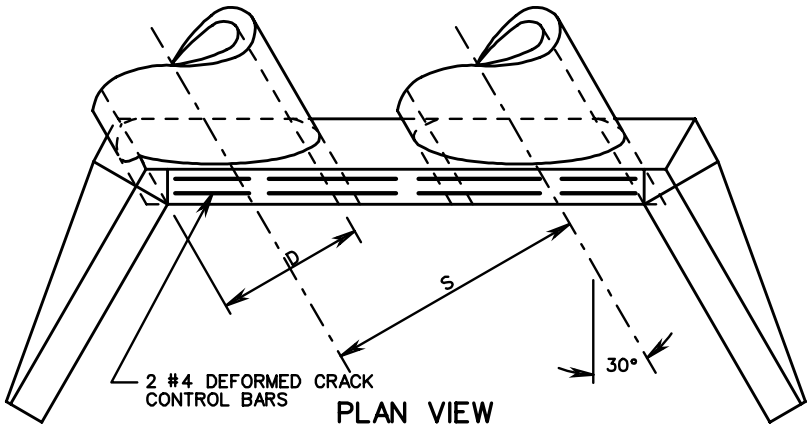
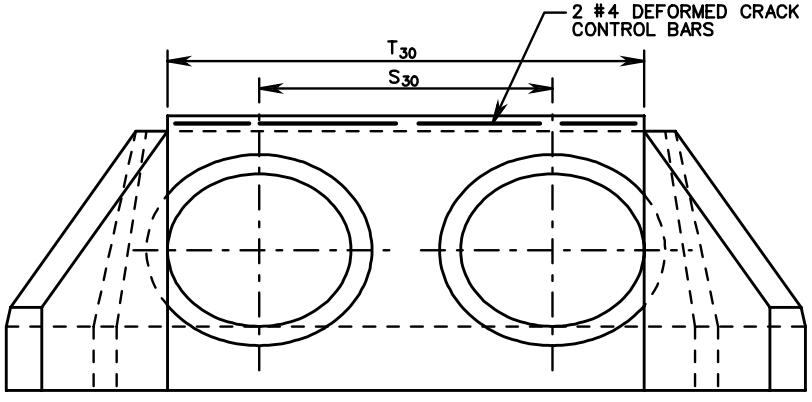
EW-7S



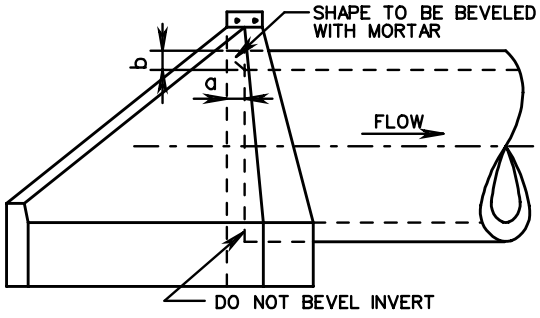
PLAN VIEW



FRONT VIEW

NOTES:

1. QUANTITIES GIVEN ARE FOR ONE ENDWALL.
2. PLEASE REFER TO STANDARD EW-2S, SHEETS 101.08 AND 101.09, RO ALL DIMENSIONS NOT GIVEN IN TABLES.
3. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
4. ON SHALLOW FILLS, WHERE ENDWALLS ARE 1' OR LESS BELOW SHOULDER LINE, THE TOP OF THE ENDWALL SHALL BVE CONSTRUCTED PARALLEL TO THE GRADE OF ROAD.
5. ALL CAST IN PLACE CONCRETE TO BE CLASS A3. FOR PRECAST SEE SHEET 101.21.
6. IN NO CASE SHALL TOP OF ENDWALL PROJECT ABOVE FILL SLOPE, DITCH SLOPE, OR SHOULDER.
7. THIS STANDARD TO BE USED WITH SKEW ANGLES FROM 15° TO 37° 30'.
8. COST OF BARS FOR CRACK CONTROL TO BE INCLUDED IN PRICE PER BID PER CUBIC YARD CONCRETE.
9. HEADWALL TO BE BEVELED IN ALL AREAS EXCEPT WHERE A CONFLICT WITH INVERT AND WINGWALLS OCCUR.
10. BEVEL EDGE IS REQUIRED ON THE HEADWALL AT THE INLET END OF THE CULVERT (WHERE THE FLOW ENTERS THE CULVERT). HEADWALL AT THE OUTLET END OF THE CULVERT MAY BE EITHER SQUARE EDGE OR BEVEL EDGE.
11. ¾" CHAMFER MAY BE PROVIDED ON ALL EDGES AT MANUFACTURER'S OPTION.



SIDE VIEW

FOR CONCRETE PIPE OR CORRUGATED METAL PIPE		
PIPE I.D.	a	b
42"	0'-4½"	0'-3½"
48"	0'-5"	0'-4"
54"	0'-5¾"	0'-4½"
60"	0'-6¼"	0'-5"
66"	0'-7"	0'-5½"
72"	0'-7½"	0'-6"
78"	0'-8¼"	0'-6½"
84"	0'-8¾"	0'-7"
90"	0'-9½"	0'-7½"
96"	0'-10"	0'-8"

FOR CONCRETE PIPE

D	S	S_{30}	T_{30}	FILL SLOPE 1½:1		FILL SLOPE 2:1	
				CONCRETE IN ONE DOUBLE ENDWALL CUBIC YARDS	INCREASE FOR EACH ADDITIONAL PIPE CUBIC YDS.	CONCRETE IN ONE DOUBLE ENDWALL CUBIC YDS.	INCREASE FOR EACH ADDITIONAL PIPE CUBIC YDS.
42"	6'-0"	6'-11⅛"	10'-11⅝"	5.098	1.467	5.759	1.449
48"	6'-10"	7'-10⅝"	12'-6⅛"	6.295	1.836	7.129	1.814
54"	7'-8"	8'-10¼"	14'-0⅝"	8.121	2.376	9.218	2.350
60"	8'-6"	9'-9¾"	15'-7"	10.224	3.001	11.640	2.971
66"	9'-4"	10'-9⅜"	17'-1½"	12.663	3.729	14.450	3.693
72"	10'-2"	11'-8⅞"	18'-8"	15.437	4.552	17.650	4.512
78"	11'-0"	12'-8⅜"	20'-2½"	18.558	5.482	21.261	5.438
84"	11'-10"	13'-8"	21'-9"	22.081	6.537	25.351	6.488
90"	12'-8"	14'-7½"	23'-3½"	26.445	8.207	30.302	7.934
96"	13'-6"	15'-7"	24'-10"	30.998	9.654	35.556	9.348

FOR CORRUGATED METAL PIPE

D	S	S_{30}	T_{30}	FILL SLOPE 1½:1		FILL SLOPE 2:1	
				CONCRETE IN ONE DOUBLE ENDWALL CUBIC YDS.	INCREASE FOR EACH ADDITIONAL PIPE CUBIC YDS.	CONCRETE IN ONE DOUBLE ENDWALL CUBIC YDS.	INCREASE FOR EACH ADDITIONAL PIPE CUBIC YDS.
42"	5'-3½"	6'-1⅜"	10'-1⅞"	5.364	1.464	6.021	1.445
48"	6'-0½"	6'-11¾"	11'-7⅞"	6.663	1.849	7.494	1.827
54"	6'-9½"	7'-10⅛"	13'-0½"	8.737	2.409	9.731	2.382
60"	7'-6½"	8'-8½"	14'-5¾"	10.927	3.066	12.339	3.035
66"	8'-3½"	9'-6⅞"	15'-11⅛"	13.585	3.827	15.354	3.777
72"	9'-0½"	10'-5¼"	17'-4⅜"	16.666	4.738	18.834	4.659
78"	9'-9½"	11'-3⅝"	18'-9¾"	20.066	5.693	22.761	5.647
84"	10'-6½"	12'-2⅛"	20'-3⅛"	23.954	6.822	27.214	6.770
90"	11'-3½"	13'-0½"	21'-8½"	28.395	8.174	32.232	8.115
96"	12'-0½"	13'-10⅛"	23'-1¾"	33.328	9.647	37.863	9.582

SPECIFICATION REFERENCE

105
302

STANDARD ENDWALL FOR MULTIPLE PIPE CULVERTS

42" - 96" CIRCULAR PIPES WITH 30° SKEW

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT
ROAD AND BRIDGE STANDARDS

REVISION DATE

SHEET 1 OF 1

101.19