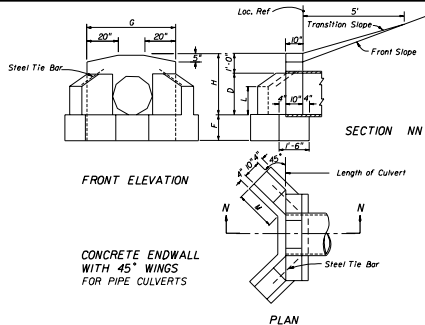


CONCRETE ENDWALL WITH U-TYPE WINGS FOR PIPE CULVERTS



CONCRETE ENDWALL WITH 45° WINGS FOR PIPE CULVERTS

TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES PIPE CULVERT ENDWALLS WITH U-TYPE WINGS

Opening D	DIMENSIONS										QUANTITIES IN ONE ENDWALL							
	Wall		Footing		Total Cu. Yds. Concrete, Class I						Steel Tie Bars							
	G	H	K	F	J	Conc. Pipe	C.W. Pipe	C.I. Pipe	Intet	Outlet		Intet	Outlet	Intet	Outlet			
12"	0.8	3'-8"	2'-0"	1'-0"	1'-3"	2'-2"	0.48	0.55	0.49	0.57	0.49	0.57	0.49	0.57	none			
15"	1.2	3'-11"	2'-3"	1'-5"	1'-3"	2'-7"	0.59	0.67	0.62	0.70	0.61	0.70	0.61	0.70	none			
18"	1.8	4'-2"	2'-6"	1'-9"	1'-3"	2'-11"	0.70	0.79	0.74	0.82	0.74	0.82	0.74	0.82	none			
24"	3.1	4'-8"	3'-0"	2'-6"	1'-6"	3'-8"	1.09	1.19	1.06	1.16	1.06	1.16	1.06	1.16	2 - 1"Ø x 2'-0"			
30"	4.9	5'-2"	3'-6"	3'-3"	1'-6"	4'-5"	1.33	1.44	1.41	1.51	1.40	1.51	1.40	1.51	2 - 1"Ø x 2'-0"			
36"	7.1	5'-8"	4'-0"	4'-0"	1'-9"	5'-2"	1.73	1.85	1.84	1.96	1.82	1.94	1.82	1.94	2 - 1"Ø x 2'-6"			
42"	9.6	6'-2"	4'-6"	4'-9"	2'-0"	5'-11"	2.29	2.32	2.32	2.45	2.32	2.45	2.32	2.45	2 - 1"Ø x 2'-6"			
48"	12.6	6'-8"	5'-0"	5'-6"	2'-0"	6'-8"	2.64	2.78	2.81	2.95	2.81	2.95	2.81	2.95	2 - 1"Ø x 3'-0"			

TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES PIPE CULVERT ENDWALLS WITH 45° WINGS

Opening D	DIMENSIONS										QUANTITIES IN ONE ENDWALL							
	Wall		Footing		Total Cu. Yds. Concrete, Class I						Steel Tie Bars							
	G	H	L	M	F	Conc. Pipe	C.W. Pipe	C.I. Pipe	Intet	Outlet		Intet	Outlet	Intet	Outlet			
18"	1.8	2'-6"	3'-10"	1'-2"	1'-7"	1'-3"	0.74	0.77	0.77	0.77	0.77	0.77	0.77	0.77	none			
24"	3.1	3'-0"	4'-4"	1'-5"	2'-1"	1'-4"	1.01	1.06	1.06	1.06	1.06	1.06	1.06	1.06	2 - 1"Ø x 2'-0"			
30"	4.9	3'-6"	4'-10"	1'-9"	2'-5"	1'-6"	1.32	1.40	1.39	1.40	1.39	1.40	1.39	1.40	2 - 1"Ø x 2'-0"			
36"	7.1	4'-0"	5'-4"	2'-0"	2'-11"	1'-8"	1.82	1.83	1.82	1.83	1.82	1.83	1.82	1.83	2 - 1"Ø x 2'-0"			
42"	9.6	4'-6"	5'-10"	2'-3"	3'-6"	2'-0"	2.34	2.47	2.47	2.47	2.47	2.47	2.47	2.47	2 - 1"Ø x 3'-0"			
48"	12.6	5'-0"	6'-4"	2'-6"	4'-0"	2'-0"	2.74	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2 - 1"Ø x 3'-0"			
15"	1.2	2'-3"	3'-7"	1'-0"	1'-3"	1'-3"	0.56	0.59	0.59	0.59	0.59	0.59	0.59	0.59	none			

GENERAL NOTES

1. Winged concrete endwalls are intended for use outside the clear zone.
2. Chamfer all exposed edges  $\frac{1}{4}$ ".
3. Concrete meeting the requirements of ASTM C-478 (4000 psi) may be used in lieu of Class I concrete in precast units manufactured in plants which are under the Standard Operating Procedures for the inspection of precast drainage products.
4. Endwall to be paid for under the contract unit price for Class I Concrete (Endwalls), CY. Cost of steel tie bars to be included in the contract unit price for Class I Concrete.
5. Soding to be in accordance with index No. 281, and paid for under the contract unit price for Soding, Sy.

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROAD DESIGN			
<b>WINGED CONCRETE ENDWALLS SINGLE ROUND PIPE</b>			
Designed By	DATE	Approved By	
Drawn By	DATE	Checked By	10/12
Checked By	DATE	Scale	1 of 1
		266	