STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

7-06

METRIC STANDARD DRAWING FOR

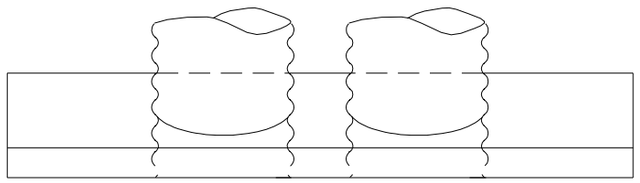
CONCRETE ENDWALL FOR SINGLE/DOUBLE PIPE CULVERTS

432mm X 330mm THRU 1803mm X 1194mm PIPE

ARCH 68mm X 13mm CORRUGATIONS - 90° SKEW

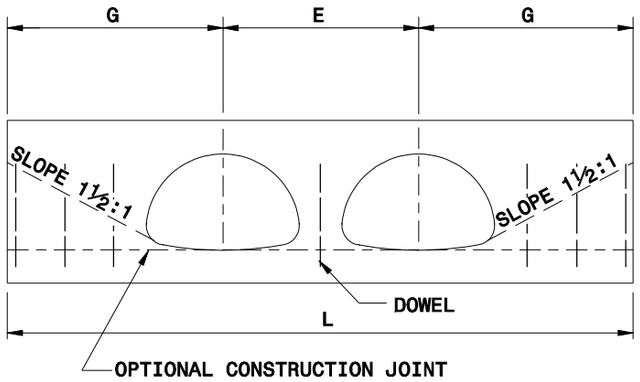
SHEET 1 OF 1

838.04

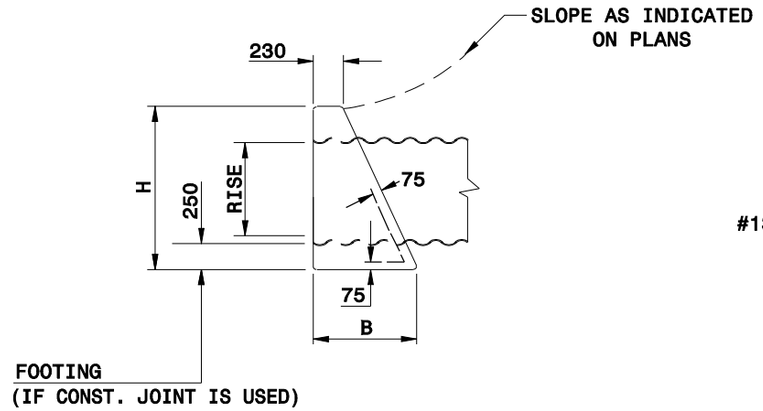


PLAN

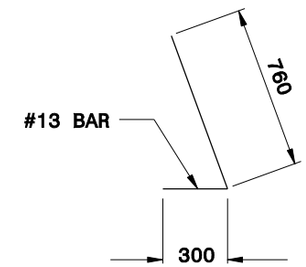
GENERAL NOTES:
- CHAMFER ALL CORNERS 25mm. USE CLASS "B" CONCRETE.
- PLACE 2 #19 "Y" BARS IN THE TOP OF ALL ENDWALL FOR PIPE CULVERTS 1050mm AND OVER WITH A MINIMUM OF 75mm COVER AND A LENGTH OF 150mm LESS THAN ENDWALL LENGTH.
- CONSTRUCT BOTTOM SLAB WITH FORMS.
- WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE, PLACE BAR "X" DOWELS IN THE BASE AS SHOWN ON PLANS. SPACE BARS APPROXIMATELY ON 300mm CENTERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE AND POUR THE BASE SEPARATELY LEAVE THE POUR ROUGH.
- DO NOT INTERPRET WALL THICKNESS (T) SHOWN FOR THE THICKNESS ACCEPTABLE, BUT IS USED IN COMPUTING ENDWALL QUANTITIES.



ELEVATION



END ELEVATION



DOWEL

BAR-"X"

		DOWELS IN ENDWALL																			
	PIPE	SINGLE PIPE										DOUBLE PIPE									
LOC.	DIA.	457	559	635	737	914	1092	1270	1473	1651	1829	457	559	635	737	914	1092	1270	1473	1651	1829
	BARS	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"
G	QTY.	2	2	2	3	3	4	4	4	5	5	2	2	2	3	3	4	4	4	5	5
M	QTY.	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	2	2	2	2
G	QTY.	2	2	2	3	3	4	4	4	5	5	2	2	2	3	3	4	4	4	5	5
TOTAL kg.		4	4	4	6	6	8	8	8	11	11	5	5	5	7	7	10	11	11	13	13

DIMENSIONS AND CONCRETE QUANTITIES										
COMMON DIMENSIONS USING C.S. ARCH PIPE							SINGLE PIPE		DOUBLE PIPE	
SPAN	RISE	THICK.	H	B	G	E	L	m^3	L	m^3
432	330	1.63	838	432	787	584	1575	0.402	2134	0.523
533	381	1.63	889	457	914	711	1829	0.506	2540	0.672
610	457	1.63	965	483	1041	813	2083	0.642	2896	0.848
711	508	2.01	1016	508	1143	940	2261	0.760	3200	1.006
889	610	2.01	1118	559	1372	1194	2743	1.046	3937	1.409
1067	737	2.01	1245	635	1626	1422	3251	1.491	4674	1.998
1245	838	2.77	1346	686	1829	1651	3658	1.881	5309	2.528
1448	965	2.77	1473	762	2083	1930	4166	2.515	6096	3.399
1626	1092	3.51	1600	813	2337	2159	4674	3.202	6833	4.310
1803	1194	3.51	1702	864	2540	2413	5080	3.828	7493	5.177

Note:
This drawing is dimensioned in millimeters unless otherwise depicted within the drawing.

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