STATE	PROJECT NO.
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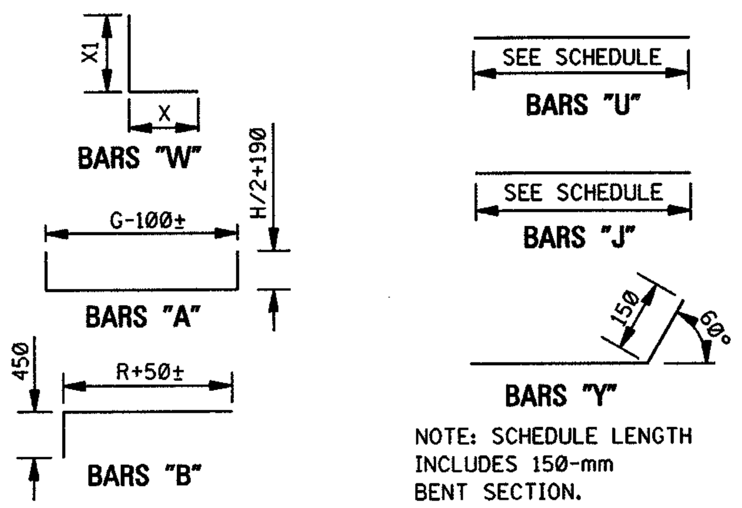


NOTE: SCHEDULE LENGTH INCLUDES 150-mm BENT SECTION.

BAR BENDING DETAILS

NOTE: WHENEVER THE COMPUTED LENGTH OF BAR EXCEEDS 9000 mm, THE SCHEDULED LENGTH INCLUDES A 300-mm LAP. ALL BARS ARE #13 EXCEPT BARS "W". SEE SCHEDULE FOR SIZE OF BARS "W".

DIMENSIONS AND REINFORCING COMMON TO FLARED HEADWALLS FOR SINGLE, DOUBLE AND TRIPLE LINE PIPE CULVERTS

PIPE DIA	MIN THK "T"	C	H	R	S1	S2	U	W	U NO	U LGTH
375	57	175	725	775	805	895	150	200	4	750
450	63	175	840	900	955	1040	150	250	4	950
600	75	175	1015	1150	1240	1330	150	300	4	1250
750	88	175	1190	1350	1470	1560	150	375	4	1475
900	100	190	1365	1575	1730	1820	150	425	4	1750
1050	113	190	1540	1775	1965	2050	150	500	4	1975
1200	125	190	1715	2000	2220	2310	150	565	4	2225
1350	138	200	1890	2200	2455	2540	150	625	4	2475
1500	150	200	2065	2450	2745	2830	150	675	4	2750
1650	163	200	2275	2750	3080	3175	165	765	4	3075
1800	175	200	2450	2950	3305	3405	175	825	4	3225
2100	200	200	2800	3350	3755	3870	200	950	4	3750
2400	225	200	3125	3775	4245	4360	200	1075	4	4250
2700	250	200	3475	4225	4750	4880	225	1200	4	4750

REINFORCING STEEL (continued)

PIPE DIA	W1 NO	W1 SIZE	W1 X	W1 X1	W1 LGTH	W2 NO	W2 SIZE	W2 X	W2 X1	W2 LGTH	W3 NO	W3 SIZE	W3 X	W3 X1	W3 LGTH
375	4	#13	325	500	825	4	#13	300	300	600					
450	4	#13	375	600	975	4	#13	300	300	600					
600	4	#13	500	775	1275	4	#13	400	475	875	2	#13	325	350	675
750	4	#13	625	950	1575	4	#13	475	650	1125	2	#13	325	350	675
900	4	#16	725	1125	1850	4	#13	600	825	1425	6	#13	425	525	950
1050	4	#16	875	1300	2175	4	#13	675	1000	1675	4	#13	475	700	1175
1200	4	#16	925	1450	2375	4	#16	800	1150	1950	4	#13	600	850	1450
1350	4	#16	1050	1600	2650	4	#16	900	1300	2200	4	#13	675	1000	1675
1500	4	#16	1150	1775	2925	4	#16	975	1475	2450	4	#16	750	1175	1925
1650	4	#19	1275	2000	3275	4	#16	1100	1700	2800	4	#16	950	1400	2350
1800	4	#19	1425	2225	3650	4	#19	1250	1925	3175	4	#16	1050	1625	2675
2100	4	#19	1625	2575	4200	4	#19	1550	2275	3825	4	#19	1350	1975	3325
2400	4	#22	1675	2850	4525	4	#22	1675	2550	4225	4	#19	1500	2250	3750
2700	4	#22	1925	3225	5150	6	#22	1925	2925	4850	4	#22	1750	2625	4375

PIPE DIA	W4 NO	W4 SIZE	W4 X	W4 X1	W4 LGTH	W5 NO	W5 SIZE	W5 X	W5 X1	W5 LGTH	W6 NO	W6 SIZE	W6 X	W6 X1	W6 LGTH
375															
450															
600															
750															
900															
1050	4	#13	375	550	925										
1200	4	#13	375	550	925										
1350	6	#13	500	700	1200										
1500	6	#13	550	875	1425	2	#13	475	725	1200					
1650	6	#16	775	1100	1875	4	#13	550	800	1350					
1800	6	#16	850	1325	2175	4	#13	600	1025	1625	2	#13	500	725	1225
2100	6	#16	1125	1675	2800	4	#16	950	1375	2325	4	#16	750	1075	1825
2400	6	#16	1300	1950	3250	2	#16	1100	1650	2750	4	#16	900	1350	2250
2700	6	#19	1550	2325	3875	4	#16	1350	2025	3375	4	#16	1150	1725	2875

PIPE DIA	W7 NO	W7 SIZE	W7 X	W7 X1	W7 LGTH	W8 NO	W8 SIZE	W8 X	W8 X1	W8 LGTH
375										
450										
600										
750										
900										
1050										
1200										
1350										
1500										
1650										
1800										
2100										
2400	4	#16	725	1050	1775					
2700	2	#16	950	1425	2375	4	#16	800	1125	1925

PIPE DIA	Y1 NO	Y1 LGTH	Y2 NO	Y2 LGTH	Y3 NO	Y3 LGTH	Y4 NO	Y4 LGTH	Y5 NO	Y5 LGTH	Y6 NO	Y6 LGTH	Y7 NO	Y7 LGTH	Y8 NO	Y8 LGTH
375	2	775	2	1100												
450	2	775	2	1250												
600	2	775	2	1375												
750	2	775	2	1375	2	1725										
900	2	775	2	1375	4	1975										
1050	2	775	2	1375	2	1975	2	2275								
1200	2	775	2	1375	2	1975	4	2525								
1350	2	775	2	1375	2	1975	6	2775								
1500	2	775	2	1375	2	1975	2	2875	4	3125						
1650	2	775	2	1375	2	1975	2	2875	6	3400						
1800	2	775	2	1375	2	1975	2	2875	2	3475	4	3650				
2100	2	775	2	1375	2	1975	2	2875	2	3475	8	4100				
2400	2	775	2	1375	2	1975	2	2875	2	3475	2	4000	6	4550		
2700	2	700	2	1375	2	1975	2	2875	2	3475	2	4225	2	4600	6	5050

GENERAL NOTES:

1. SPECIFICATIONS: MISSISSIPPI DEPARTMENT OF TRANSPORTATION, LATEST EDITION.
2. ALL CONCRETE SHALL BE CLASS "B".
3. ALL EXPOSED EDGES SHALL BE CHAMFERED 20 mm.
4. EXPOSED CONCRETE SURFACES SHALL BE FINISHED IN ACCORDANCE WITH THE APPLICABLE SECTION OF THE MDOT SPECIFICATIONS.
5. ALL LENGTHS AND QUANTITIES IN THE TABLES HEREON ARE BASED ON CONCRETE PIPE.
6. QUANTITIES SHOWN SHALL BE THE BASIS FOR FINAL PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.

DIMENSIONS AND REINFORCING FOR FLARED HEADWALL FOR SINGLE LINE PIPE CULVERT

PIPE DIA	A	B	E	G	X	Y	Z	A NO	A LGTH	B NO	B LGTH	C NO	C LGTH	D NO	D LGTH
375	-	-	-	1020	1570	675	-	4	2025	4	1275	2	800	2	550
450	-	-	-	1095	1790	750	-	4	2215	5	1400	2	900	2	600
600	-	-	-	1270	2255	925	-	4	2565	5	1650	2	1075	2	675
750	-	-	-	1460	2670	1115	-	4	2930	6	1850	2	1250	2	750
900	-	-	-	1620	3095	1275	-	4	3265	7	2075	2	1425	2	825
1050	-	-	-	1795	3500	1450	-	4	3615	7	2275	2	1600	2	900
1200	-	-	-	1970	3935	1625	-	4	3965	8	2500	2	1775	2	975
1350	-	-	-	2170	4365	1825	-	4	4340	8	2700	2	1950	2	1050
1500	-	-	-	2345	4830	2000	-	4	4690	9	2950	2	2125	2	1125
1650	-	-	-	2550	5350	2175	-	4	5105	9	3250	2	2350	2	1275
1800	-	-	-	2755	5755	2350	-	4	5485	10	3450	2	2550	2	1375
2100	1200	5100	600	3165	6570	2700	-	4	6245	11	3850	2	2900	2	1575
2400	1275	5450	600	3475	7410	3050	-	4	6880	12	4275	2	3225	2	1725
2700	1450	6250	600	3880	8280	3400	-	4	7635	14	4725	2	3600	2	1900

PIPE DIA	J1 NO	J1 LGTH	J2 NO	J2 LGTH	J3 NO	J3 LGTH	J4 NO	J4 LGTH	J5 NO	J5 LGTH	J6 NO	J6 LGTH	J7 NO	J7 LGTH
375	1	1125	1	1475	1	1650								
450	1	1175	1	1525	1	1875	1	1875						
600	1	1350	1	1700	1	2050	1	2400	1	2325				
750	1	1550	1	1900	1	2250	1	2600	1	2700				
900	1	1700	1	2050	1	2400	1	2750	1	3100	1	3150		
1050	1	1875	1	2225	1	2575	1	2925	1	3275	1	3625	1	3525
1200	1	2050	1	2400	1	2750	1	3100	1	3450	1	3800	1	3975
1350	1	2250	1	2600	1	2950	1	3300	1	3650	1	4000	1	4350
1500	1	2425	1	2775	1	3125	1	3475	1	3825	1	4175	1	4525
1650	1	2625	1	3000	1	3350	1	3700	1	4050	1	4375	1	4725
1800	1	2825	1	3175	1	3525	1	3875	1	4225	1	4575	1	4925
2100	1	3225	1	3575	1	3925	1	4275	1	4625	1	4975	1	5325
2400	1	3600	1	3950	1	4300	1	4650	1	5000	1	5350	1	5700
2700	1	3950	1	4300	1	4650	1	5000	1	5350	1	5700	1	6050

PIPE DIA	J8 NO	J8 LGTH	J9 NO	J9 LGTH	J10 NO	J10 LGTH	J11 NO	J11 LGTH	J12 NO	J12 LGTH	J13 NO	J13 LGTH	J14 NO	J14 LGTH	PAY QTY 1-HEADWALL CONC (m³)	STEEL (kg)
375															0.49	33
450															0.61	39
600															0.87	51
750															1.15	63
900															1.47	89
1050															1.82	104
1200															2.24	126
1350	1	4425													2.66	151
1500	1	4875	1	4875											3.17	179
1650	1	5075	1	5400	1	5400									4.16	229
1800	1	5275	1	5600	1	5850									5.11	262
2100	1	5675	1	6025	1	6375	2	6700							7.16	358
2400	1	6050	1	6400	1	6750	1	7100	1	7450	1	7475			8.86	438
2700	1	6400	1	6750	1	7100	1	7450	1	7800	1	8150	1	8350	12.15	595

DIMENSIONS AND REINFORCING FOR FLARED HEADWALL FOR DOUBLE LINE PIPE CULVERT

PIPE DIA	A	B	E	G	X	Y	Z	A NO	A LGTH	B NO	B LGTH	C NO	C LGTH	D NO	D LGTH
375	-	-	-	1795	2345	1450	300	4	2800	7	1275	3	800	4	550
450	-	-	-	1945	2640	1600	300	4	3065	8	1400	3	900	4	600
600	-	-	-	2295	3280	1950	300	4	3590	9	1650	3	1075	4	675
750	-	-	-	2745	3960	2400	375	4	4215	10	1850	4	1250	4	750
900	-	-	-	3145	4620	2800	450	4	4790	12	2075	4	1425	4	825
1050	-	-	-	3570	5275	3225	525	4	5390	13	2275	4	1600	4	900
1200	-	-	-	3995	5960	3650	600	4	5990	15	2500	4	1775	4	975
1350	-	-	-	4470	6665	4125	675	4	6640	16	2700	5	1950	4	1050
1500	-	-	-	4895	7380	4550	750	4	7240	17	2950	5	2125	4	1125
1650	-	-	-	5350	8150	4975	825	4	7905	18	3250	5	2350	4	1275
1800	-	-	-	5805	8805	5400	900	4	8535	20	3450	5	2550	4	1375
2100	900	8650	4150	6715	10120	6550	1050	4	10095	23	3850	6	2900	4	1575
2400	900	9500	4650	7525	11460	7100	1200	4	11230	26	4275	7	3225	4	1725
2700	900	10800	5150	8430	12830	7950	1350	4	12485	29	4725	7	3600	4	1900

PIPE DIA	J1 NO	J1 LGTH	J2 NO	J2 LGTH	J3 NO	J3 LGTH	J4 NO	J4 LGTH	J5 NO	J5 LGTH	J6 NO	J6 LGTH	J7 NO	J7 LGTH
375	1	1875	1	2225	1	2425								
450	1	2025	1	2375	1	2725	1	2725						
600	1	2375	1	2725	1	3075	1	3425	1	3350				
750	1	2850	1	3200	1	3525	1	3875	1	3975				
900	1	3225	1	3575	1	3925	1	4275	1	4625	1	4675		
1050	1	3650	1	4000	1	4350	1	4700	1	5050	1	5400	1	5300
1200	1	4075	1	4425	1	4775	1	5125	1	5475	1	5825	1	6000
1350	1	4550	1	4900	1	5250	1	5600	1	5950	1	6300	1	6650
1500	1	4975	1	5325	1	5675	1	6025	1	6375	1	6725	1	7075
1650	1	5425	1	5775	1	6100	1	6450	1	6800	1	7150	1	7500
1800	1	5875	1	6225	1	6575	1	6925	1	7275	1	7625	1	7975
2100	1	6775	1	7125	1	7475	1	7825	1	8175	1	8525	1	8875
2400	1	7650	1	8000	1	8350	1	8700	1	9350	1	9700	1	10050
2700	1	8500	1	8850	1	9500	1	9850	1	10200	1	10550	1	10900

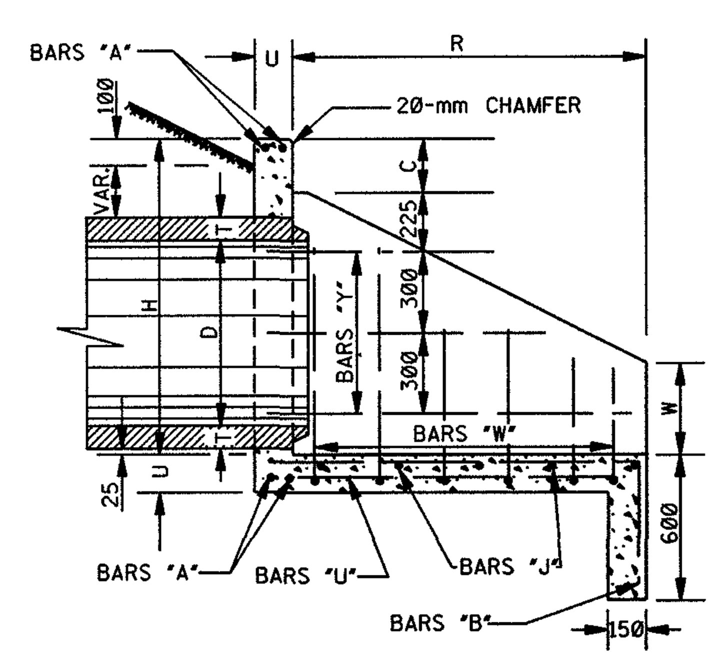
PIPE DIA	J8 NO	J8 LGTH	J9 NO	J9 LGTH	J10 NO	J10 LGTH	J11 NO	J11 LGTH	J12 NO	J12 LGTH	J13 NO	J13 LGTH	J14 NO	J14 LGTH	PAY QTY 1-HEADWALL CONC (m³)	STEEL (kg)
375															0.71	44
450															0.87	52
600															1.23	69
750															1.66	86
900															2.14	119
1050															2.68	142
1200															3.31	171
1350	1	6725													3.97	207
1500	1	7425	1	7425											4.75	244
1650	1	7850	2	8200											6.21	306
1800	1	8325	1	8650	1	8900									7.65	350
2100	1	9525	1	9875	1	10225	2	10550							10.45	478
2400	1	10400	1	10750	1	11100	1	11450	1	11800	1	11825			12.97	589
2700	1	11250	1	11600	1	11950	1	12300	1	12650	1	13000	1	13200	17.50	774

DIMENSIONS AND REINFORCING FOR FLARED HEADWALL FOR TRIPLE LINE PIPE CULVERT

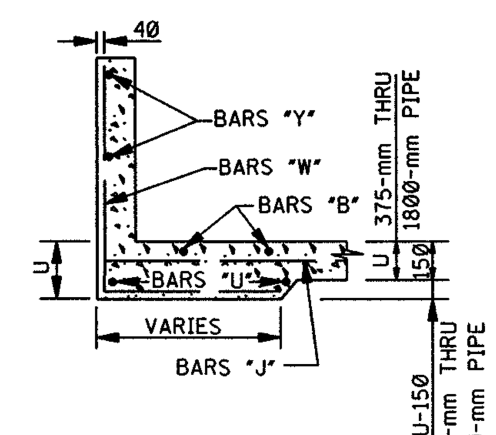
PIPE DIA	A	B	E	G	X	Y	Z	A NO	A LGTH	B NO	B LGTH	C NO	C LGTH	D NO	D LGTH
375	-	-	-	2570	3120	2225	300	4	3575	10	1275	4	800	6	550
450	-	-	-	2795	3490	2450	300	4	3915	11	1400	4	900	6	600
600	-	-	-	3320	4305	2975	300	4	4615	13	1650	4	1075	6	675
750	-	-	-	4035	5245	3690	375	4	5505	14	1850	6	1250	6	750
900	-	-	-	4670	6145	4325	450	4	6315	17	2075	6	1425	6	825
1050	-	-	-	5345	7050	5000	525	4	7165	19	2275	6	1600	6	900
1200	-	-	-	6020	7985	5675	600	4	8015	22	2500	6	1775	6	975
1350	-	-	-	6770	8965	6425	675	4	8940	24	2700	8	1950	6	1050
1500	-	-	-	7445	9930	7100	750	4	10090	25	2950	8	2125	6	1125
1650	-	-	-	8150	10950	7775	825	4	11005	27	3250	8	2350	6	1275
1800	-	-	-	8855	11855	8450	900	4	11885	30	3450	8	2550	6	1375
2100	900	12200	7700	10265	13670	9800	1050	4	13645	35	3850	10	2900	6	1575
2400	900	13550	8700	11575	15510	11150	1200	4	15280	39	4275	12	3225	6	1725
2700	900	15350	9700	12980	17380	12500	1350	4	17035	44	4725	12	3600	6	1900

PIPE DIA	J1 NO	J1 LGTH	J2 NO	J2 LGTH	J3 NO	J3 LGTH	J4 NO	J4 LGTH	J5 NO	J5 LGTH	J6 NO	J6 LGTH	J7 NO	J7 LGTH
375	1	2625	1	2975	1	3150								
450	1	2875	1	3225	1	3575	1	3575						
600	1	3400	1	3750	1	4100	1	4450	1	4375				
750	1	4125	1	4475	1	4825	1	5150	1	5200				
900	1	4750	1	5100	1	5450	1	5800	1	6150	1	6200		
1050	1	5425	1	5775	1	6125	1	6475	1	6825	1	7175	1	7075
1200	1	6100	1	6450	1	6800	1	7150	1	7500	1	7850	1	8025
1350	1	6850	1	7200	1	7550	1	7900	1	8250	1	8600	1	8950
1500	1	7525	1	7875	1	8225	1	8575	1	8925	1	9575	1	9925
1650	1	8275	1	8625	1	8975	1	9650	1	10000	1	10350	1	10700
1800	1	8925	1	9575	1	9925	1	10275	1	10625	1	10975	1	11325
2100	1	10625	1	10975	1	11325	1	11675	1	12025	1	12375	1	12725
2400	1	12000	1	12350	1	12700	1	13050	1	13400	1	13750	1	14100
2700	1	13350	1	13700	1	14050	1	14400	1	14750	1	15100	1	15450

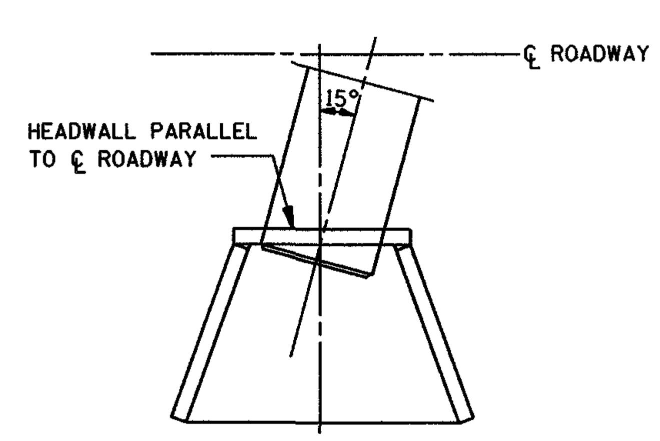
PIPE DIA	J8 NO	J8 LGTH	J9 NO	J9 LGTH	J10 NO	J10 LGTH	J11 NO	J11 LGTH	J12 NO	J12 LGTH	J13 NO	J13 LGTH	J14 NO	J14 LGTH	PAY QTY 1-HEADWALL CONC (m³)	STEEL (kg)
375															0.93	54
450															1.14	65
600															1.60	87
750															2.17	109
900															2.81	149
1050															3.54	180
1200															4.38	216
1350	1	9325													5.27	264
1500	1	10275													6.32	301
1650	1	11050	2	11300											8.26	387
1800	1	11675	1	12000	1	12250									10.18	440
2100	1	13075	1	13425	1	13775	2	14100							13.79	597
2400	1	14450	1	14800	1	15150	1	15500	1	15850	1	15875			17.14	734
2700	1	15800	1	16150	1	16500	1	16850	1	17200	1	17550	1	17750	22.99	948



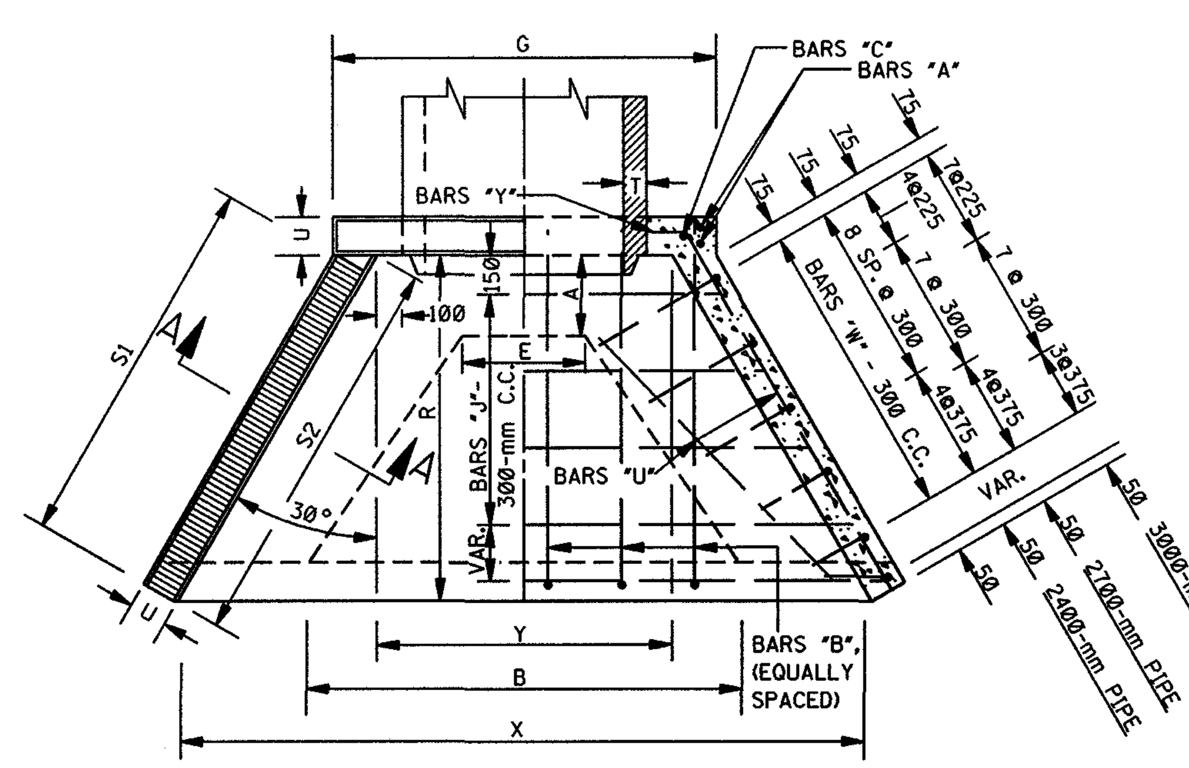
SECTION B–B



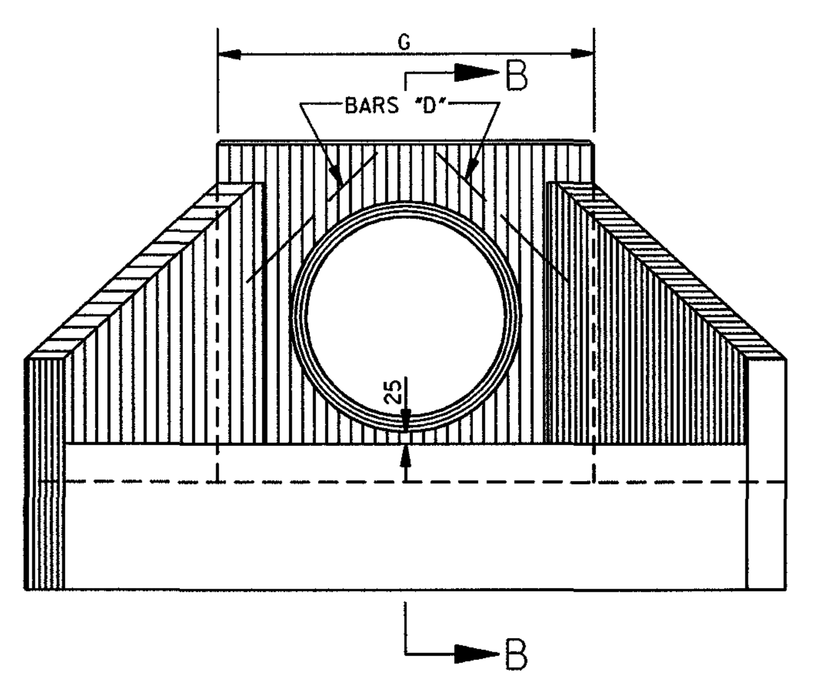
SECTION A–A



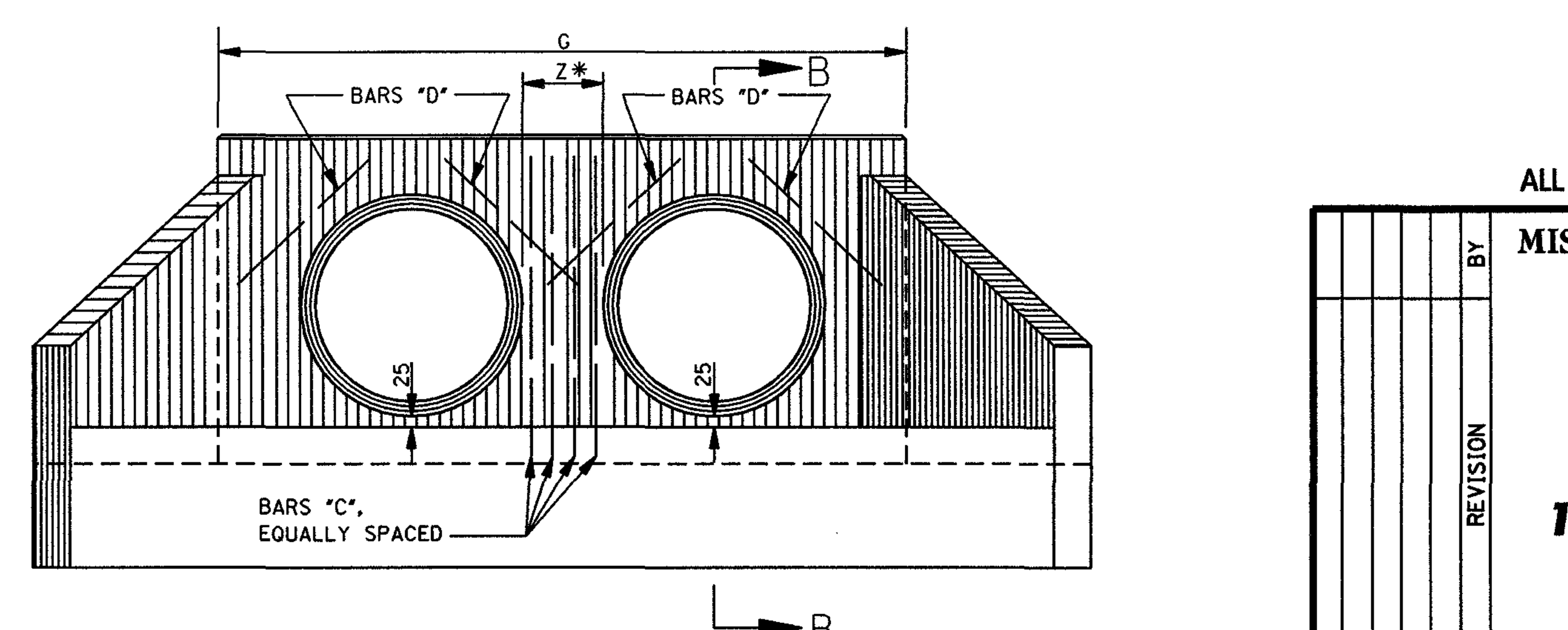
15° SKEW INSTALLATION PLAN



PLAN



FRONT ELEVATION



FRONT ELEVATION

*NOTE: MEASURE NORMAL (PERPENDICULAR) TO PIPE.

ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
REVISION	**HEADWALLS FOR CONCRETE PIPE 1:2 SLOPE – 0°– 15° SKEW**
DATE	ISSUE DATE: OCTOBER 1, 1998

METRIC — DEPARTMENT OF TRANSPORTATION — MISSISSIPPI

WORKING NUMBER HW-1200

SHEET NUMBER 340