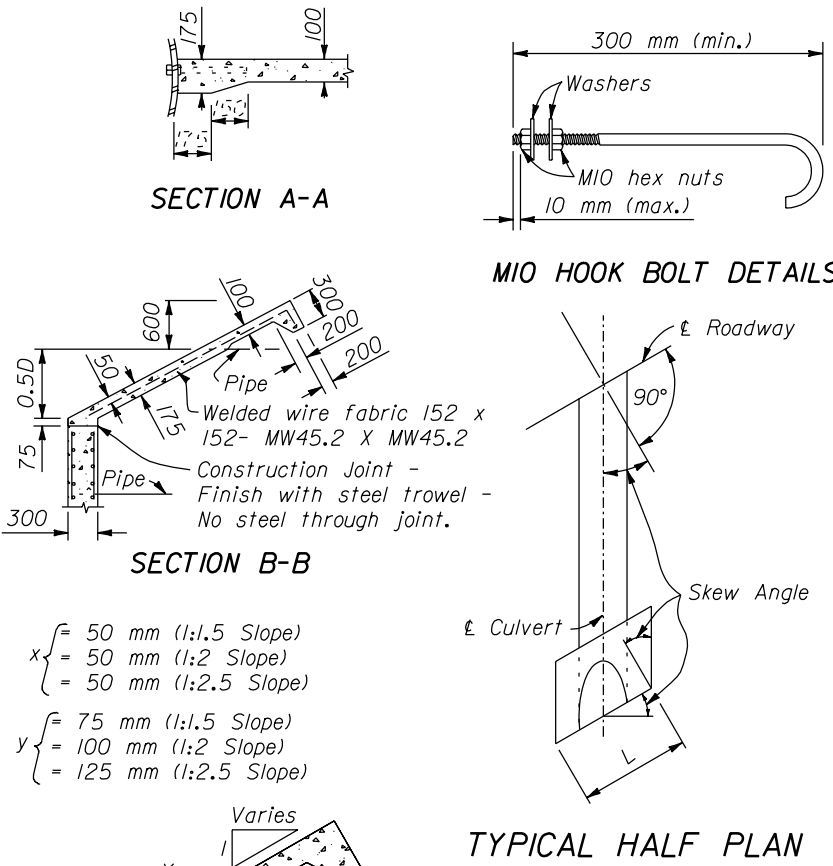


SLOPE PAVING FOR DOUBLE PIPE CULVERT

DIMENSIONS, REINFORCING STEEL AND CONCRETE TABLE OF QUANTITIES

D mm	SQUARE HEADWALL				15° SKEW				30° SKEW				45° SKEW			
	S m	L m	CONC. m ³	STEEL kg	S m	L m	CONC. m ³	STEEL kg	S m	L m	CONC. m ³	STEEL kg	S m	L m	CONC. m ³	STEEL kg
1200	2.16	4.2	1.20	35	2.24	4.5	1.24	37	2.49	4.9	1.39	41	3.05	6.0	1.70	50
1350	2.30	4.9	1.45	43	2.38	5.1	1.50	44	2.66	5.6	1.68	49	3.25	7.0	2.05	60
1500	2.43	5.5	1.73	51	2.52	5.8	1.79	53	2.81	6.4	2.00	59	3.44	7.8	2.44	72
1650	2.57	6.1	1.97	58	2.66	6.4	2.04	60	2.97	7.1	2.28	67	3.63	8.7	2.79	81
1800	2.70	6.7	2.28	67	2.79	7.0	2.36	69	3.12	7.8	2.63	77	3.82	9.5	3.22	94
1950	2.84	7.7	2.61	76	2.94	7.5	2.70	79	3.28	8.4	3.01	88	4.02	10.4	3.69	108
2100	2.97	8.0	2.96	87	3.07	8.2	3.06	90	3.43	9.0	3.42	100	4.20	11.3	4.18	123
2250	3.11	8.6	3.33	98	3.22	8.8	3.44	101	3.59	9.9	3.84	113	4.40	12.1	4.70	138
2400	3.24	9.0	3.64	106	3.35	9.3	3.77	109	3.74	10.6	4.20	122	4.58	13.0	5.15	149
2550	3.38	9.6	4.00	116	3.50	10.0	4.14	120	3.90	11.2	4.62	134	4.78	13.8	5.65	164
2700	3.51	10.2	4.37	127	3.63	10.5	4.53	131	4.05	11.8	5.05	147	4.96	14.4	6.18	180
2850	3.65	10.7	4.76	138	3.78	11.1	4.93	143	4.22	12.3	5.50	160	5.16	15.3	6.73	195
3000	3.78	11.3	5.17	151	3.91	11.6	5.35	156	4.37	12.9	5.97	174	5.34	16.0	7.31	213
3150	3.92	11.8	5.50	159	4.06	12.2	5.69	164	4.53	13.7	6.35	183	5.54	16.6	7.77	224
3300	4.05	12.4	5.93	171	4.19	12.7	6.14	177	4.68	14.3	6.85	198	5.73	17.5	8.39	242
3450	4.19	12.9	6.38	184	4.34	13.3	6.61	191	4.83	14.8	7.37	213	5.92	18.3	9.03	261
3600	4.32	13.5	6.85	198	4.47	13.8	7.09	205	4.99	15.4	7.91	229	6.11	19.0	9.69	280
3750	4.46	14.0	7.33	212	4.62	14.4	7.59	220	5.15	16.0	8.46	245	6.31	19.7	10.37	300
3900	4.59	14.4	7.71	221	4.75	14.9	7.98	229	5.30	16.8	8.91	256	6.49	20.5	10.91	313
4050	4.73	14.9	8.23	236	4.90	15.5	8.51	245	5.46	17.4	9.50	273	6.69	21.3	11.63	334
4200	4.87	15.5	8.75	252	5.04	16.0	9.06	261	5.62	17.9	10.11	291	6.89	22.0	12.38	356
4350	5.00	16.0	9.17	262	5.18	16.6	9.49	271	5.78	18.5	10.59	302	7.07	22.8	12.96	370
4500	5.14	16.6	9.86	284	5.32	17.2	10.20	294	5.94	19.1	11.38	328	7.27	23.6	13.93	402

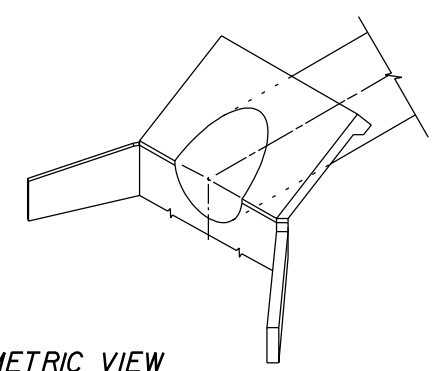
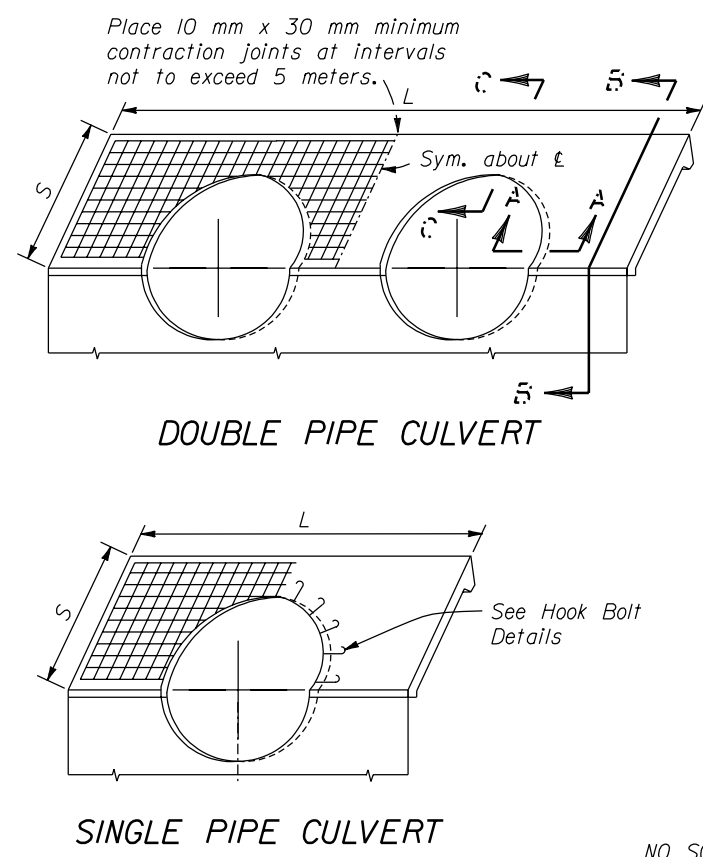


- NOTE:**
- Dimensions not labeled are in millimeters
 - Concrete conforms to Section 601. Chamfer all exposed edges 20 mm and finish all exposed surfaces with a Class 1 ordinary finish.
 - Clearance for reinforcing steel is 50 mm unless otherwise noted.
 - Set hook bolts on nominal 450 mm centers around pipe perimeter. Hook bolts conform to ASTM A307. Galvanize according to ASTM A153.
 - For installations with more than two pipe culverts, increase the dimension "L" and all quantities shown for double pipe installation by adding a length equal to dimension "B" as shown on Standard M601-1 and the incremental change in quantities for each additional pipe culvert.
 - For skews other than those shown, multiply quantities and dimensions "A", "B" & "L" for square headwalls by secant of the skew angle.
 - For the skew angle shown, the dimension "S" and the quantities for slope paving are computed for a 1:1.5 sideslope. To compute dimension "S" and slope paving quantities for a 1:2 slope multiply the values for that particular skew by 1.24, and for a 1:2.5 slope multiply by 1.49.
 - Final quantities will be determined by using the tables on this standard.
 - Do not order materials until the length, skew angle, and slope bevel in the field have been approved.

SLOPE PAVING FOR SINGLE PIPE CULVERT

DIMENSIONS, REINFORCING STEEL AND CONCRETE TABLE OF QUANTITIES

D mm	SQUARE HEADWALL				15° SKEW				30° SKEW				45° SKEW			
	S m	L m	CONC. m ³	STEEL kg	S m	L m	CONC. m ³	STEEL kg	S m	L m	CONC. m ³	STEEL kg	S m	L m	CONC. m ³	STEEL kg
1200	2.16	2.4	0.71	20	2.24	2.5	0.74	21	2.49	2.8	0.82	24	3.05	3.4	1.01	29
1350	2.30	2.8	0.88	25	2.38	3.0	0.91	26	2.66	3.3	1.02	29	3.25	4.0	1.24	36
1500	2.43	3.2	1.06	31	2.52	3.3	1.09	32	2.81	3.7	1.22	36	3.44	4.6	1.49	44
1650	2.57	3.6	1.22	35	2.66	3.7	1.27	37	2.97	4.1	1.41	41	3.63	5.1	1.73	50
1800	2.70	4.0	1.42	41	2.79	4.1	1.47	43	3.12	4.5	1.64	48	3.82	5.6	2.01	58
1950	2.84	4.3	1.64	48	2.94	4.5	1.70	49	3.28	5.0	1.90	55	4.02	6.2	2.32	67
2100	2.97	4.7	1.87	54	3.07	4.9	1.94	56	3.43	5.5	2.16	61	4.20	6.7	2.65	77
2250	3.11	5.1	2.12	62	3.22	5.3	2.19	64	3.59	5.9	2.45	69	4.40	7.2	2.99	87
2400	3.24	5.5	2.33	67	3.35	5.7	2.41	69	3.74	6.3	2.69	78	4.58	7.8	3.30	95
2550	3.38	5.9	2.61	75	3.50	6.1	2.70	78	3.90	6.8	3.01	87	4.78	8.3	3.69	106
2700	3.51	6.2	2.89	83	3.63	6.5	2.99	86	4.05	7.2	3.34	96	4.96	8.8	4.09	118
2850	3.65	6.6	3.19	92	3.78	6.9	3.30	95	4.22	7.7	3.68	106	5.16	9.4	4.51	130
3000	3.78	7.0	3.50	101	3.91	7.3	3.62	105	4.37	8.1	4.04	117	5.34	9.9	4.95	143
3150	3.92	7.4	3.77	108	4.06	7.7	3.90	112	4.53	8.5	4.35	125	5.54	10.4	5.33	153
3300	4.05	7.8	4.11	118	4.19	8.1	4.25	122	4.68	9.0	4.74	136	5.73	11.0	5.81	167
3450	4.19	8.2	4.46	128	4.34	8.5	4.61	132	4.83	9.4	5.15	148	5.92	11.5	6.30	181
3600	4.32	8.5	4.82	139	4.47	8.8	4.99	144	4.99	9.9	5.56	160	6.11	12.1	6.81	196
3750	4.46	8.9	5.20	150	4.62	9.2	5.38	155	5.15	10.3	6.00	173	6.31	12.6	7.35	212
3900	4.59	9.3	5.52	158	4.75	9.6	5.33	163	5.30	10.7	6.38	182	6.49	13.2	7.81	223
4050	4.73	9.7	5.92	170	4.90	10.0	6.13	176	5.46	11.2	6.84	196	6.69	13.7	8.37	240
4200	4.87	10.1	6.34	181	5.04	10.4	6.56	188	5.62	11.6	7.32	210	6.89	14.2	8.96	257
4350	5.00	10.4	6.69	190	5.18	10.8	6.92	197	5.78	12.0	7.73	220	7.07	14.8	9.46	269
4500	5.14	10.8	7.22	207	5.32	11.2	7.47	214	5.94	12.5	8.34	239	7.27	15.3	10.20	292



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

SLOPE PAVING FOR CONCRETE HEADWALLS

STANDARD APPROVED FOR USE 3/1996
REVISED: 8/1997

STANDARD
M601-2

NO SCALE