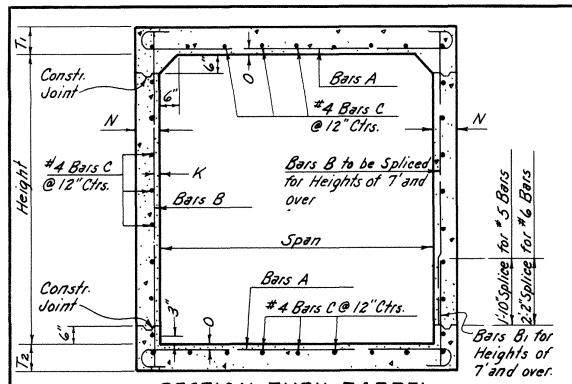
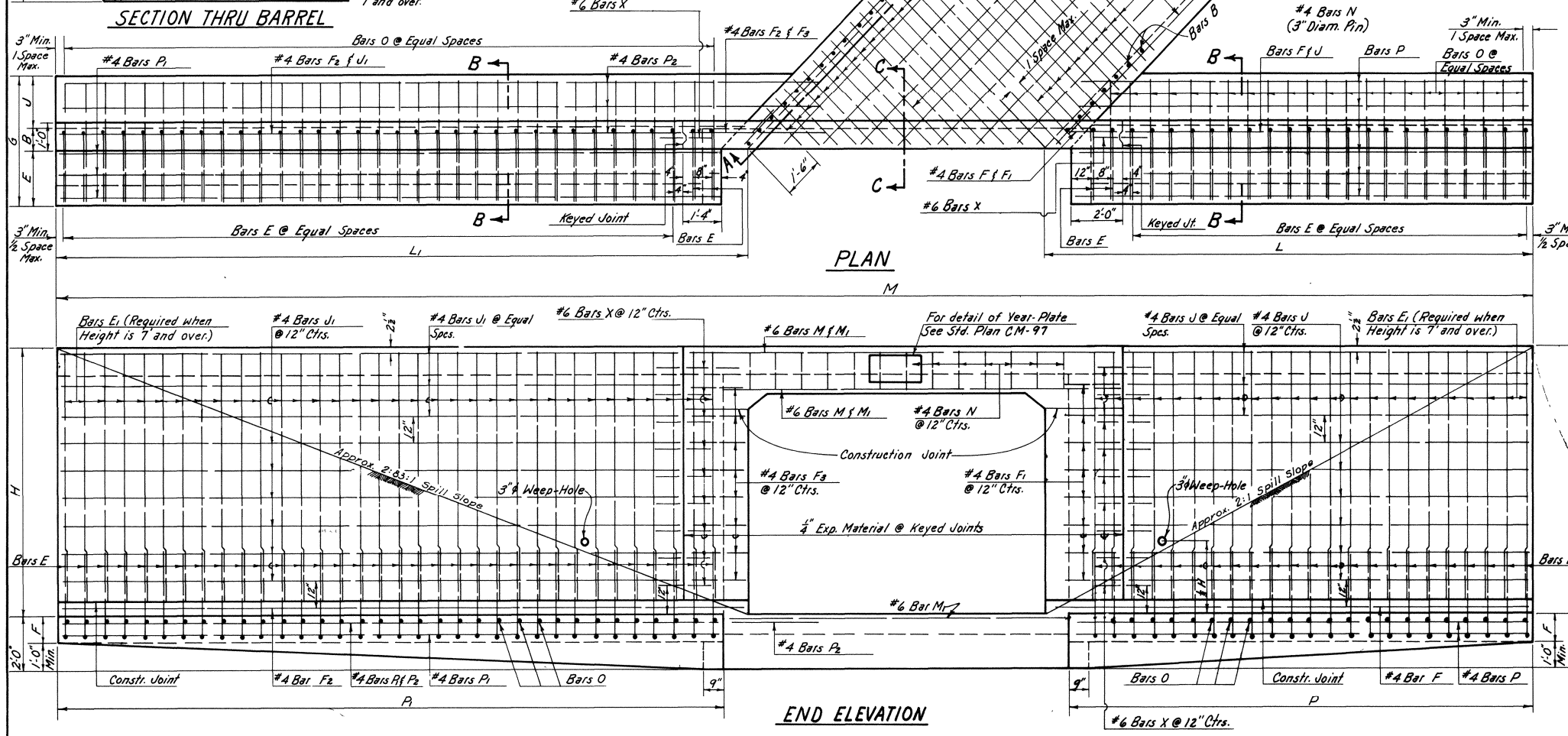
STATE PROJECT	PARISH	SHEET NO.

GENERAL NOTES

Construction Specifications: Latest approved La. Dept. of Highways Standard Specifications.
Design Specifications: A.A.S.H.O. 1961 as amended by Int. Spec 1964.
Live Load: HS 20-44 or Military; whichever is Greater.
All Concrete to be Class "A"
All exposed corners to have ¾" chamfer, unless otherwise noted.
Reinforcement shall be **Billet-Steel A.S.T.M. A615 or Rail-Steel A.S.T.M. A616 or Axle-Steel A.S.T.M. A617.**
Dimensions relating to Reinforcing Steel are to bar centers.
A 1'-0" Square of Plastic Filter Cloth (See Qualified Products List) shall be placed in contact with Concrete behind each Weep Hole, in addition to approx. 2 Cu. Ft. of Concrete Sand.
For details of Joints, See Std. Plan CM-49.

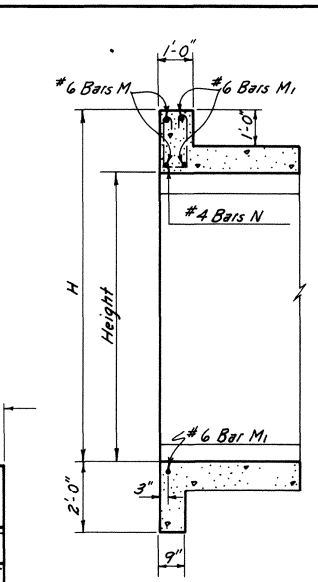


SECTION THRU BARREL



PLAN

END ELEVATION



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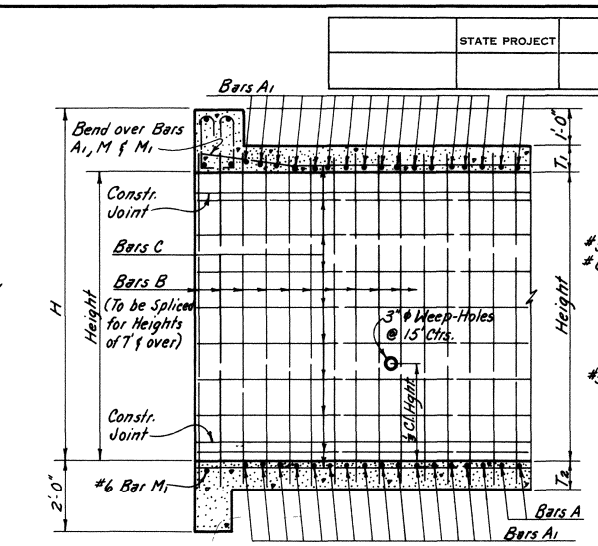
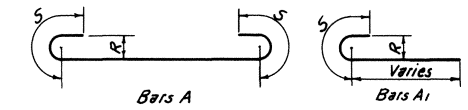


SECTION A-A



DIMENSIONS - BARS A AND A1		
Size	R	S
#6	5 11/16"	0'-11"
#7	6⅝	1'-1"

DIMENSIONS

OPENING Span in Feet	OPENING Height in Feet	BARREL T1	BARREL T2	BARREL N	BARREL O	BARREL K	WINGS AND CURBS B	E	J	G	F	H	L	L1	P	P1	M	QUANTITIES PER LIN. FT. BARREL STEEL	CONCRETE	44'-0" CULVERT (Incl. Wings) STEEL	CONCRETE
		In.	In.	In.	In.	In.	In.	Ft-In.	Ft-In.	Ft-In.	In.	Ft-In.	Ft-In.	Ft-In.	Ft-In.	Ft-In.	Ft-In.	Lbs.	Cu. Yds.	Lbs.	Cu. Yds.
7	4	9	9	6	1⅞	1¾	6	1-3	0-10	2-9	9	5-9	10-6½	14-10½	9-10	14-2	35-3¾	88.12	0.6019	5084	41.94
	5	9	9	6	1⅞	1¾	6	1-5	1-2	3-3	9	6-9	12-6½	17-6½	11-10	17-0	40-1¾	90.79	0.6809	5466	48.32
	6	9	9	6	1⅞	1¾	6	1-7	1-7	3-10	9	7-9	14-6½	20-7½	13-10	19-11	45-0¾	95.38	0.6759	6072	55.66
	7	9	9	7	1⅞	1¾	10	1-11	1-8	4-5	12	8-9	16-8⅞	23-6⅞	15-11	22-9	50-2¾	107.29	0.7654	7268	72.84
8	4	10	10	6	1⅞	1¾	8	1-3	0-10	2-9	9	5-10	10-6½	14-10½	9-10	14-2	36-8¾	96.89	0.7130	5568	47.39
	5	10	10	6	1⅞	1¾	8	1-5	1-2	3-3	9	6-10	12-6½	17-10½	11-10	17-2	41-8¾	99.56	0.7500	5962	53.88
	6	10	10	7	1⅞	1¾	8	1-7	1-7	3-10	9	7-10	14-6⅞	21-0⅞	15-9	20-3	46-11¾	103.44	0.8344	6588	63.56
	7	10	10	7	1⅞	1 15/16	10	1-11	1-8	4-5	12	8-10	16-8⅞	23-6⅞	15-11	22-9	51-7¾	116.18	0.8776	7732	78.44
	8	10	10	8	1⅞	1 15/16	10	2-0	2-0	4-10	12	9-10	18-4⅞	26-6⅞	17-5	25-9	56-4¾	121.82	0.9805	8520	91.40
9	5	10½	10½	7	1 15/16	1¾	8	1-5	1-2	3-3	9	6-10½	12-7⅞	17-11⅞	11-10	17-2	43-4¾	122.30	0.8843	7043	60.43
	6	10½	10½	7	1 15/16	1¾	8	1-7	1-7	3-10	9	7-10½	14-6⅞	21-0⅞	13-9	20-3	46-1¾	124.97	0.9275	7611	68.15
	7	10½	10½	8	1 15/16	1 15/16	10	1-11	1-8	4-5	12	8-10½	16-10⅞	23-6⅞	15-11	22-9	53-3⅞	138.97	1.0247	8815	85.62
	8	10½	10½	8	1 15/16	1 15/16	10	2-0	2-0	4-10	12	9-10½	18-4⅞	26-6⅞	17-5	25-9	57-3⅞	143.40	1.0741	9543	96.06
	9	10½	10½	9	1 15/16	1 15/16	10	2-2	2-4	5-4	12	10-10½	20-3⅞	29-0⅞	19-3	28-0	62-1⅞	150.80	1.1898	10858	110.31
10	5	11	11	8	1 15/16	1¾	8	1-5	1-2	3-3	9	6-11	12-9 5/16	18-1 5/16	11-10	17-2	45-0 5/16	133.28	1.0257	7602	67.30
	6	11	11	8	1 15/16	1¾	8	1-7	1-6	3-9	9	7-11	14-9 5/16	21-2 5/16	13-10	20-3	50-1 5/16	135.95	1.0751	8168	75.22
	7	11	11	8	1 15/16	1¾	10	1-11	1-8	4-5	12	8-11	16-10 5/16	23-9 5/16	15-11	22-10	54-9 5/16	145.08	1.1245	9158	90.62
	8	11	11	9	1 15/16	1 15/16	10	2-0	2-0	4-10	12	9-11	19-2 5/16	26-9 5/16	18-2	25-9	60-2 5/16	153.61	1.2346	10126	104.63
	9	11	11	9	1 15/16	1 15/16	10	2-2	2-4	5-4	12	10-11	20-11 5/16	29-7 5/16	19-11	28-7	64-9 5/16	163.80	1.2901	11543	116.67
	10	11	11	10	1 15/16	1¾	10	2-4	2-8	5-10	12	11-11	22-11 5/16	32-2 5/16	21-9	31-0	69-3 5/16	175.06	1.4187	13958	132.67

APPROVED BY:
Original Signed by Chief Engineer
CHIEF ENGINEER DATE

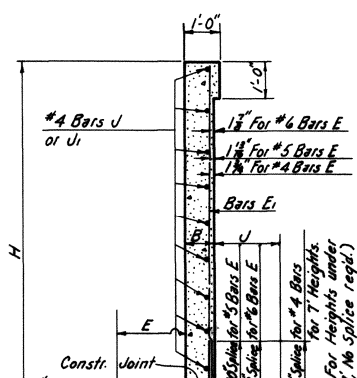
BILL OF REINFORCING STEEL (FOR 44'-0" CULVERT)

OPENING Span in Feet	OPENING Height in Feet	BARREL BARS A Size	Nº	Lgth. Ft.-In.	Spac. In.	BARS A1 Size	Nº	Short Bar Ft.-In.	Var. In.	Long Bar Ft.-In.	Spac. In.	BARS B & B1 Size	Nº	Spac.	Bars B Lgth. Ft.-In.	Bars B1 Lgth. Ft.-In.	#4 BARS C Nº	Lgth.© Ft.-In.
7	4	#6	180	9-0½	5	#6	60	2-3	5	8-1	5	#4	94	12	5-2		24	47-10
	5	#6	180	9-0½	5	#6	60	2-3	5	8-1	5	#4	94	12	6-2		26	47-10
	6	#6	180	9-0½	5	#6	60	2-3	5	8-1	5	#4	112	10	7-2		28	47-10
	7	#6	180	9-2⅝	5	#6	60	2-4	5	8-2	5	#5	94	12	7-1	2-11	30	47-10
8	4	#6	180	10-0½	5	#6	72	2-3	5	9-4	5	#4	94	12	5-4		26	47-10
	5	#6	180	10-0½	5	#6	72	2-3	5	9-4	5	#4	94	12	6-4		28	47-10
	6	#6	180	10-2½	5	#6	72	2-4	5	9-5	5	#4	94	12	7-4		30	47-10
	7	#6	180	10-2½	5	#6	72	2-5	5	9-5	5	#5	94	12	7-2	3-0	32	47-10
	8	#6	180	10-4½	5	#6	72	2-5	5	9-6	5	#5	98	11½	8-2	3-0	34	47-10
9	5	#7	146	11-5½	6	#7	68	2-5	6	10-5	6	#4	94	12	6-5		30	47-10
	6	#7	146	11-5½	6	#7	68	2-5	6	10-5	6	#4	94	12	7-5		32	47-10
	7	#7	146	11-7½	6	#7	68	2-6	6	10-6	6	#5	94	12	7-2	3-0	34	47-10
	8	#7	146	11-7½	6	#7	68	2-6	6	10-6	6	#5	98	11½	8-2	3-0	36	47-10
	9	#7	146	11-9½	6	#7	68	2-7	6	10-7	6	#5	108	10½	9-2	3-0	38	47-10
10	5	#7	142	12-7⅞	6	#7	76	2-7	6	11-7	6	#4	94	12	6-6		32	47-10
	6	#7	142	12-7⅞	6	#7	76	2-7	6	11-7	6	#4	94	12	7-6		34	47-10
	7	#7	142	12-7⅞	6	#7	76	2-7	6	11-7	6	#4	126	9	7-3	2-9	36	47-10
	8	#7	142	12-9⅞	6	#7	76	2-8	6	11-8	6	#5	94	12	8-3	3-1	38	47-10
	9	#7	142	12-9⅞	6	#7	76	2-8	6	11-8	6	#5	118	9½	9-3	3-1	40	47-10
	10	#7	142	12-11⅞	6	#7	76	2-9	6	11-9	6	#6	94	12	10-3	3-5	42	47-10

OPENING Span in Feet	OPENING Height in Feet	BARS E Size	Nº	Lgth. Ft.-In.	Spac. In.	BARS E1 Size	Nº	Lgth. Ft.-In.	Spac. In.	#4 BARS F Nº	Lgth. Ft.-In.	#4 BARS F1 Nº	Lgth. Ft.-In.	#4 BARS F2 Nº	Lgth. Ft.-In.	#4 BARS F3 Nº	Lgth. Ft.-In.	#4 BARS J Nº	Lgth. Ft.-In.	#4 BARS J1 Nº	Lgth. Ft.-In.	#4 BARS N Nº	Lgth. Ft.-In.	BARS O Size	Nº	Lgth. Ft.-In.	Spac. In.	#4 BARS P Nº	Lgth. Ft.-In.	#4 BARS P1 Nº	Lgth. Ft.-In.	#4 BARS P2 Nº	Lgth. Ft.-In.	#6 BARS M Nº	Lgth. Ft.-In.	#6 BARS M1 Nº	Lgth. Ft.-In.	#6 BARS X Nº	Lgth. Ft.-In.
7	4	#4	50	7-7	12					2	10-11	8	3-0	2	16-2	8	3-3	10	7-6	10	12-6	22	4-7	#4	46	2-4	12	10	9-6	6	13-10	4	16-9	4	14-1	6	10-10	20	2-0
	5	#4	60	8-9	12					2	12-11	10	3-0	2	19-0	10	3-3	12	9-6	12	15-4	22	4-7	#4	56	2-10	12	10	11-6	6	16-8	4	19-11	4	14-1	6	10-10	24	2-0
	6	#4	70	9-11	12					2	14-11	12	3-0	2	21-11	12	3-3	14	11-6	14	18-3	22	4-7	#4	66	3-5	12	14	13-6	8	19-7	6	23-3	4	14-1	6	10-10	26	2-0
	7	#4	94	5-1	10	#4	94	8-1	10	2	16-11	14	2-11	2	25-0	14	3-6	18	13-7	18	21-1	22	4-7	#4	76	4-0	12	14	15-7	8	22-5	6	26-4	4	14-4	6	11-1	32	2-0
8	4	#4	50	7-8	12					2	10-11	8	3-0	2	16-2	8	3-3	12	7-6	12	12-6	24	4-9	#4	46	2-4	12	10	9-6	6	13-10	4	16-9	4	15-6	6	12-3	20	2-0
	5	#4	60	8-10	12					2	12-11	10	3-0	2	19-2	10	3-3	14	9-6	14	15-6	24	4-9	#4	56	2-10	12	10	11-6	6	16-10	4	20-1	4	15-6	6	12-3	24	2-0
	6	#4	76	10-0	11					2	14-11	12	3-1	2	22-4	12	3-4	16	11-5	16	18-7	24	4-9	#4	66	3-5	12	14	13-5	8	19-11	6	23-7	4	15-9	6	12-5	28	2-0
	7	#4	94	5-1	10	#4	94	8-2	10	2	16-11	14	2-11	2	25-0	14	3-6	18	13-7	18	21-1	24	4-9	#4	76	4-0	12	14	15-7	8	22-5	6	26-4	4	15-9	6	12-5	32	2-0
	8	#4	96	5-5	11	#4	96	9-2	11	2	18-6	16	3-0	2	28-1	16	3-7	20	15-1	20	24-1	24	4-9	#4	84	4-5	12	14	17-1	8	25-5	6	29-8	4	16-0	6	12-8	36	2-0
9	5	#4	60	8-10½	12					2	13-0	10	3-1	2	19-3	10	3-4	14	9-6	14	15-6	28	4-10	#4	56	2-10	12	10	11-6	6	16-10	4	20-1	4	17-2	6	13-10	24	2-0
	6	#4	76	10-0½	11					2	14-11	12	3-1	2	22-4	12	3-4	16	11-5	16	18-7	28	4-10	#4	66	3-5	12	14	13-5	8	19-11	6	23-7	4	17-2	6	13-10	28	2-0
	7	#4	94	5-1	10	#4	94	8-2	10	2	17-0	14	3-0	2	25-1	14	3-7	18	13-7	18	21-1	28	4-10	#4	76	4-0	12	14	15-7	8	22-5	6	26-4	4	17-5	6	14-1	32	2-0
	8	#4	96	5-5	11	#4	96	9-2	11	2	18-6	16	3-0	2	28-1	16	3-7	20	15-1	20	24-1	28	4-10	#4	84	4-5	12	14	17-1	8	25-5	6	29-8	4	17-5	6	14-1	36	2-0
	9	#4	140	5-7	8	#4	140	10-2	8	2	20-6	18	3-2	2	30-6	18	3-8	22	16-11	22	26-4	28	4-10	#4	112	4-11	10	14	18-11	8	27-8	6	32-3	4	17-7	6	14-4	40	2-0
10	5	#4	60	8-11	12					2	13-2	10	3-2½	2	19-5	10	3-5½	14	9-6	14	15-6	30	4-11	#4	56	2-10	12	10	11-6	6	16-10	4	20-1	4	18-9	6	15-6	24	2-0
	6	#4	76	10-1	11					2	15-2	12	3-2½	2	22-6	12	3-5½	16	11-6	16	18-7	30	4-11	#4	66	3-4	12	14	13-6	8	19-11	6	23-6	4	18-9	6	15-6	28	2-0
	7	#4	94	5-1	10	#4	94	8-3	10	2	17-1	14	3-1	2	25-3	14	3-8	18	13-7	18	21-2	30	4-11	#4	76	4-0	12	14	15-7	8	22-6	6	26-5	4	18-9	6	15-6	32	2-0
	8	#4	98	5-5	11	#4	98	9-3	11	2	19-5	16	3-2	2	28-3	16	3-9	20	15-10	20	24-1	32	4-11	#4	86	4-5	12	14	17-10	8	25-5	6	29-8	4	19-0	6	15-9	36	2-0
	9	#4	142	5-7	8	#4	142	10-3	8	2	21-2	18	3-2	2	31-1	18	3-9	22	17-7	22	26-11	32	4-11	#4	112	4-11	10	14	19-7	8	28-3	6	32-10	4	19-0	6	15-9	40	2-0
	10	#6	148	6-7	8½	#5	148	11-3	8½	2	23-8	20	3-3	2	33-7	20	3-10	24	19-5	24	29-4	32	4-11	#5	120	5-5	10½	16	21-5	8	30-8	6	35-7	4	19-3	6	16-0	44	2-0

© Includes 1'-6" Lap-Splice.

Ⓐ #6 Bars X to be ¾" ϕ Smooth and Greased for 1'-0" of Length



SECTION B-B

DATE	DESCRIPTION	BY
5-8-72	Rev. General Notes for Steel	W.E.M.
1-7-72	Added 8' & 9' SPANS	W.E.M.
4-27-67	Added Axle Steel	W.E.M.
12-22-64	Added "H4", "H5" & "H6"	W.E.M.
5-30-64	Added 7'x7'	W.E.M.
2-3-64	Revised Spill Slopes & to Gravity	W.E.M.
8-8-62	Revised 10x2 added 10x6, 10x6, 10x8, 10x7 and 10x10	W.E.M.

REVISIONS

DATE	DESCRIPTION	BY
5-30-76	Revised Spill Slope	W.T.J.
1-4-67	Rev. Weep Hole Note	W.T.J.

REVISIONS

MAXIMUM FILL

Span in Feet	Height in Feet	Area Sq. Ft.	Slab	Wall	Span in Feet	Height in Feet	Area Sq. Ft.	Slab	Wall
7	4	28	15	12	9	5	45	12	8
	5	35	14	6		6	54	12	5
	6	42	14	5		7	63	11	8
	7	49	13	6		8	72	11	5
8	4	32	14	11		9	81	10	5
	5	40	13	6	10	5	50	6'	11'
	6	48	13	5		6	60	6'	6'
	7	56	13	6		7	70	6'	6'
	8	64	12	5		8	80	6'	6'
						9	90	6'	6'
						10	100	6'	6'

STANDARD PLAN
REINF. CONCRETE BOX CULVERTS
STRAIGHT WINGWALLS 45° CROSSING
2:1 SPILL SLOPE NORMAL TO CHANNEL
7' TO 10' SPANS 4' TO 10' HEIGHTS
DATED Nov. 30 1961

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

DESIGNED Q.A.H.	DETAILED Q.A.H.	TRACED
CHECKED	CHECKED	CHECKED

C·C·S·S·7-10·RS·45°·1