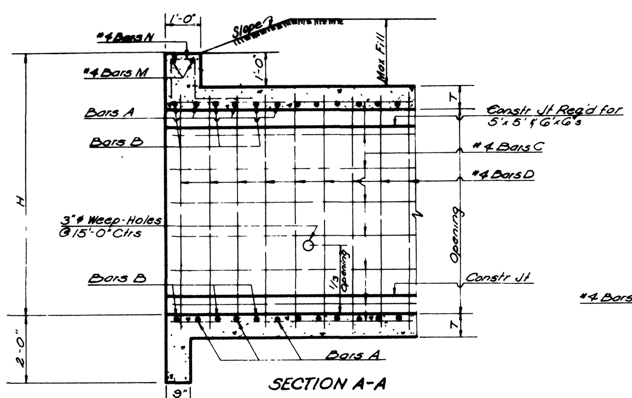

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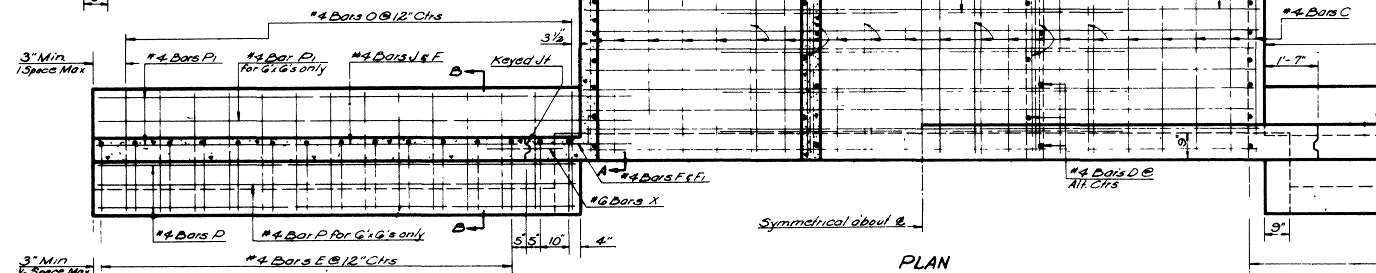
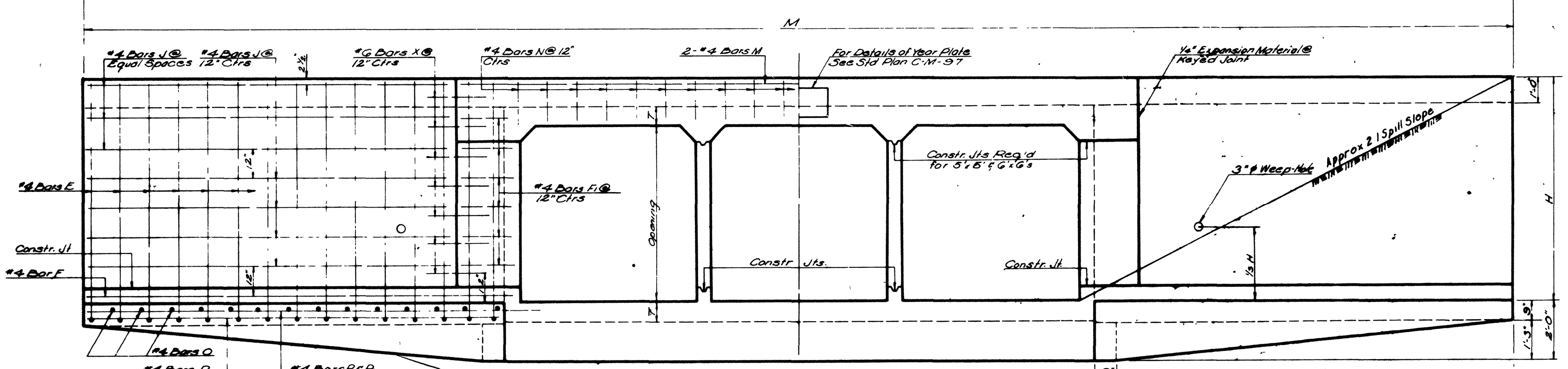
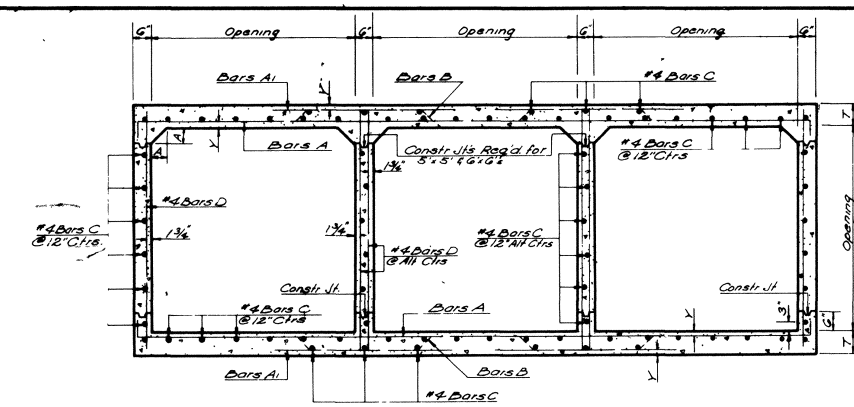


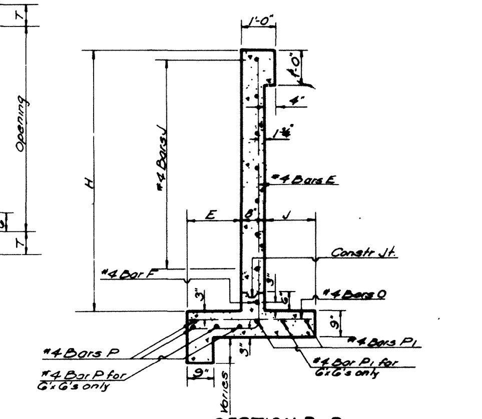
PLAN



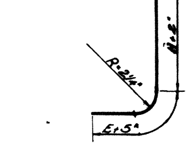
END ELEVATION



SECTION THRU BARREL



SECTION B-B



#4 BARS E

DIMENSIONS															**QUANTITIES**				**OPENINGS**	
OPENINGS			**MAX. FILL**		**BARREL**			**WINGS & CURBS**							**PER LINEAR FT. OF BARREL**		**FOR 44'-0" OF CULVERT**			
SIZE	NO.	AREA	SLAB	WALL	T	A	Y	E	J	G	H	L	P	M	STEEL	CONCRETE	STEEL	CONCRETE	NO.	SIZE
FEET		SQ. FT.	FEET	FEET	IN	IN	IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	LBS.	CU. YDS.	LBS.	CU. YDS.		FEET
4x4	2	32	25	13	7	4	1 3/16	1-3	0-10	2-9	5-7	9-9	9-3	28-0	85.26	0.6409	4640	40.18	2	4x4
	3	48	32											32-6	127.77	0.9136	6654	53.41	3	
	4	64												37-0	170.27	1.1862	8067	66.64	4	
	5	80												41-6	212.77	1.4589	10673	79.87	5	
	6	96												46-0	255.27	1.7315	12606	93.10	6	
5x5	2	50	21	7	7½	5	1 3/16	1-5	1-2	3-3	6-7½	11-9	11-3	34-0	113.32	0.8231	6,169	52.60	2	5x5
	3	75	27											39-6	170.56	1.1767	8,850	69.69	3	
	4	100												45-0	227.80	1.5303	11,537	86.79	4	
	5	125												50-6	284.64	1.8840	14,218	103.89	5	
	6	150												56-0	341.68	2.2377	16,905	120.98	6	
6x6	2	72	15	5	8	6	1⅞	1-7	1-6	3-9	7-8	14-3	14-3	42-0	137.72	1.0185	7,704	67.54	2	6x6
	3	108	20											48-6	206.89	1.4599	10,957	88.81	3	
	4	144												55-0	276.06	1.9012	14,216	110.08	4	
	5	180												61-6	345.23	2.3426	17,469	131.34	5	
	6	216												68-0	414.40	2.7839	20,733	152.61	6	

BILL OF REINFORCING STEEL FOR 44'-0" CULVERT

BARREL REINFORCEMENT

SIZE (FEET)	NO.	Bars A SIZE	Bars A NO.	Bars A LENGTH FT-IN	Bars A SPAC. IN	Bars A1 SIZE	Bars A1 NO.	Bars A1 LENGTH FT-IN	Bars A1 SPAC. IN	Bars B SIZE	Bars B NO.	Bars B LENGTH FT-IN	Bars B SPAC. IN	#4 Bars C NO.	#4 Bars C LENGTH ① FT-IN	#4 Bars D NO.	#4 Bars D LENGTH FT-IN	#4 Bars D SPAC. IN
4x4	2	#5	92	10-0	12	#5	92	3-10	12	#5	92	10-2¾	12	38	47-2	138	4-10	12
	3	#5	92	14-6	12	#5	184	3-10	12	#5	92	14-11½	12	56	47-2	184	4-10	12
	4	#5	92	19-0	12	#5	276	3-10	12	#5	92	19-0¼	12	74	47-2	230	4-10	12
	5	#5	92	23-6	12	#5	368	3-10	12	#5	92	24-5	12	92	47-2	276	4-10	12
	6	#5	92	28-0	12	#5	460	3-10	12	#5	92	29-1¼	12	110	47-2	322	4-10	12
5x5	2	#5	110	12-0	10	#5	110	4-4	10	#5	110	12-3¾	10	45	47-2	138	5-11	12
	3	#5	110	17-6	10	#5	220	4-4	10	#5	110	18-0½	10	66	47-2	184	5-11	12
	4	#5	110	23-0	10	#5	330	4-4	10	#5	110	23-9¾	10	87	47-2	230	5-11	12
	5	#5	110	28-6	10	#5	440	4-4	10	#5	110	29-7	10	108	47-2	276	5-11	12
	6	#5	110	34-0	10	#5	550	4-4	10	#5	110	35-4¼	10	129	47-2	322	5-11	12
6x6	2	#6	78	14-0	14	#6	78	5-2	14	#6	80	14-3½	14	52	47-2	165	7-0	10
	3	#6	78	20-6	14	#6	156	5-2	14	#6	80	21-1	14	76	47-2	220	7-0	10
	4	#6	78	27-0	14	#6	234	5-2	14	#6	80	27-10½	14	100	47-2	275	7-0	10
	5	#6	78	33-6	14	#6	312	5-2	14	#6	80	34-8	14	124	47-2	330	7-0	10
	6	#6	78	40-0	14	#6	390	5-2	14	#6	80	41-5½	14	148	47-2	385	7-0	10

WING AND CURB REINFORCEMENT

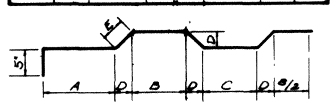
SIZE (FEET)	NO.	#4 Bars E NO.	#4 Bars E LENGTH FT-IN	#4 Bars F NO.	#4 Bars F LENGTH FT-IN	#4 Bars F1 NO.	#4 Bars F1 LENGTH FT-IN	#4 Bars J NO.	#4 Bars J LENGTH FT-IN	#4 Bars M NO.	#4 Bars M LENGTH FT-IN	#4 Bars N NO.	#4 Bars N LENGTH FT-IN	#4 Bars O NO.	#4 Bars O LENGTH FT-IN	#4 Bars P NO.	#4 Bars P LENGTH FT-IN	#4 Bars P1 NO.	#4 Bars P1 LENGTH FT-IN	#6 Bars X Ⓐ NO.	#6 Bars X LENGTH FT-IN	NO.	SIZE (FEET)
4x4	2	40	7-5	4	10-8	16	2-11	20	7-4	4	12-1	20	4-9	36	2-4	12	8-11	8	10-7	20	2-0	2	4x4
	3	40	7-5	4	10-8	16	2-11	20	7-4	4	16-7	28	4-9	36	2-4	12	8-11	8	10-7	20	2-0	3	
	4	40	7-5	4	10-8	16	2-11	20	7-4	4	21-1	38	4-9	36	2-4	12	8-11	8	10-7	20	2-0	4	
	5	40	7-5	4	10-8	16	2-11	20	7-4	4	25-7	48	4-9	36	2-4	12	8-11	8	10-7	20	2-0	5	
	6	40	7-5	4	10-8	16	2-11	20	7-4	4	30-1	56	4-9	36	2-4	12	8-11	8	10-7	20	2-0	6	
5x5	2	48	8-7½	4	12-8	20	2-11	24	9-4	4	14-1	24	4-10	44	2-10	12	10-11	8	12-7	24	2-0	2	5x5
	3	48	8-7½	4	12-8	20	2-11	24	9-4	4	19-7	34	4-10	44	2-10	12	10-11	8	12-7	24	2-0	3	
	4	48	8-7½	4	12-8	20	2-11	24	9-4	4	25-1	46	4-10	44	2-10	12	10-11	8	12-7	24	2-0	4	
	5	48	8-7½	4	12-8	20	2-11	24	9-4	4	30-7	56	4-10	44	2-10	12	10-11	8	12-7	24	2-0	5	
	6	48	8-7½	4	12-8	20	2-11	24	9-4	4	36-1	68	4-10	44	2-10	12	10-11	8	12-7	24	2-0	6	
6x6	2	60	9-10	4	15-8	24	2-11	28	12-4	4	16-1	28	4-11	56	3-4	16	13-11	12	15-7	28	2-0	2	6x6
	3	60	9-10	4	15-8	24	2-11	28	12-4	4	22-7	40	4-11	56	3-4	16	13-11	12	15-7	28	2-0	3	
	4	60	9-10	4	15-8	24	2-11	28	12-4	4	29-1	54	4-11	56	3-4	16	13-11	12	15-7	28	2-0	4	
	5	60	9-10	4	15-8	24	2-11	28	12-4	4	35-7	66	4-11	56	3-4	16	13-11	12	15-7	28	2-0	5	
	6	60	9-10	4	15-8	24	2-11	28	12-4	4	43-7	80	4-11	56	3-4	16	13-4	12	15-7	28	2-0	6	

① Includes 1-1'-6" Lap Splice.

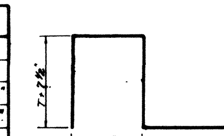
Ⓐ #6 Bars X to be ¾"φ Smooth and Greased for 1'-0" of Length.

DIMENSIONS FOR BARS B

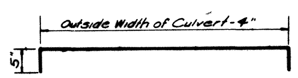
SIZE	PIN DIAM.	A	B	C	D	E
4x4	3¾	3'-2⅝"	2'-2⅝"	1'-0⅝"	3⅜	4¾"
5x5	3¾	3'-11⅛"	2'-0⅛"	2'-2⅛"	3⅞	5½"
6x6	4½	4'-7⅞"	3'-1⅞"	2'-7⅞"	4⅛"	6"



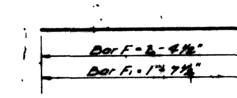
BARS B



#4 BARS N
(3" Diam. Pin)



BARS A
(#5 Bars - 3¾" Diam. Pin)
(#6 Bars - 4½" Diam. Pin)



#4 BARS F & F1
(3" Diam. Pin)

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 H-S 20-44 or Military Loading, 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'-6" 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 Coarse Aggregate.
For Detail of Joints, See Std. Plan C.M.-43.

Approved by

Original Signed by Chief Engineer

Chief Engineer — Date

DATE	DESCRIPTION	
1-11-78	Rev. Weep Hole Note	W.T.J.
1-28-75	Rev. Slope Inter...	W.T.J.
6-8-72	Rev. General Notes for Steel	W.E.M.
4-27-67	Added Axle Steel	W.E.M.
8-17-6[illegible]	[illegible]	W.E.M.
12-10-6[illegible]	[illegible]	W.E.M.
4-6-6[illegible]	[illegible]	W.E.M.
REVISIONS		

STANDARD PLAN
MULTIPLE OPENINGS
REINF. CONCRETE BOX CULVERT
2:1 SPILL SLOPES
STRAIGHT HDWLS.
DATED May 15 1962 — 4x4 5x5 & 6x6

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

DESIGNED [illegible] DETAILED [illegible]
CHECKED [illegible]
IN CHARGE OF [illegible]

STATE PROJECT	PARISH	SHEET NO.

C·C·S·M·4-6·S·90°·1