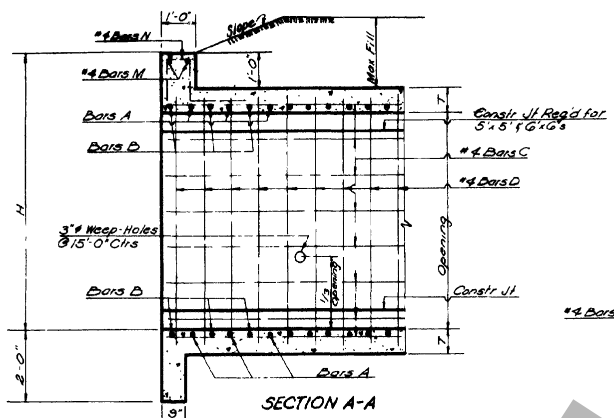
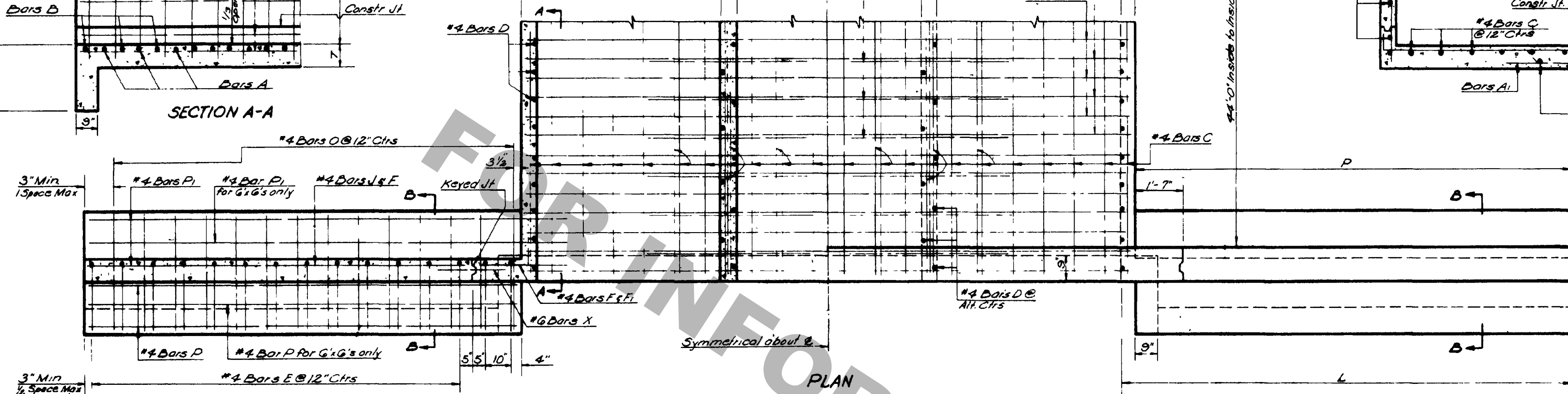
09:52 28-NOV-2007

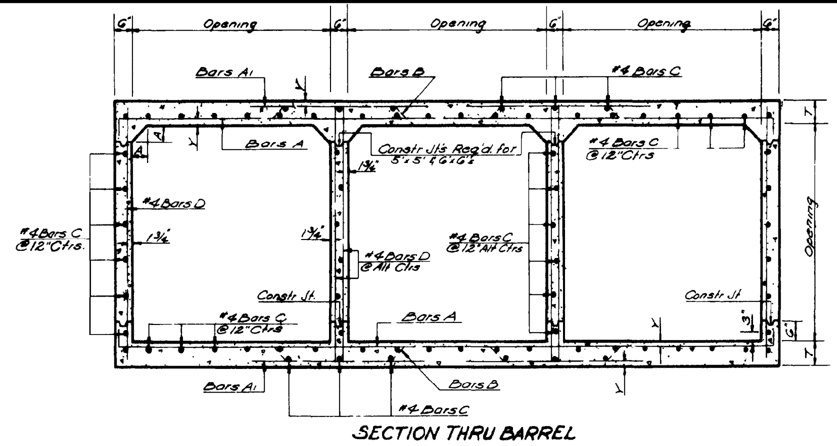
F.A.P.	STATE PROJECT	PARISH	SHEET NO.



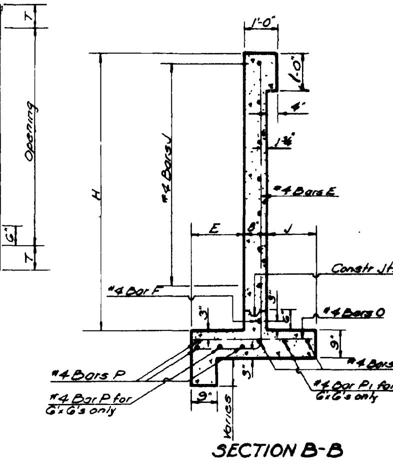
SECTION A-A



PLAN



SECTION THRU BARREL



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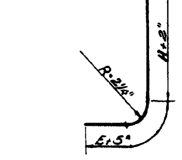
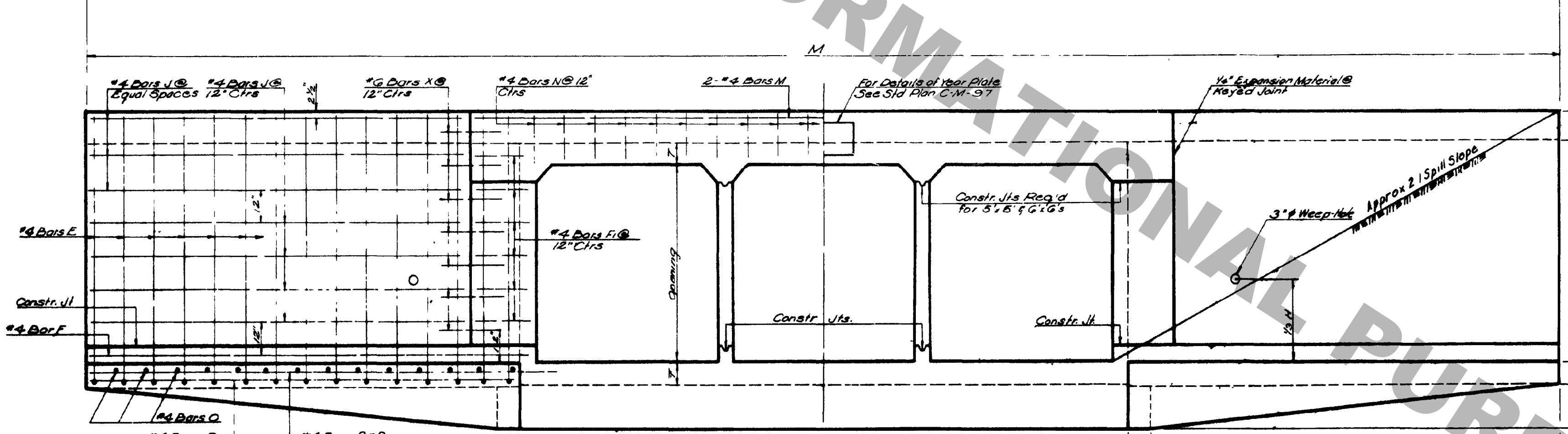


#4 BARS E

M



END ELEVATION

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 13/16	1-3	0-10	2-9	5-7	9-9	9-3	28-0	85.26	0.6409	4648	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	8667	66.64	4	
	5	80												41-6	212.77	1.4589	10673	79.87	5	
	6	96												46-0	255.27	1.7315	12686	93.10	6	
5x5	2	50	21	7	7½	5	1 13/16	1-5	1-2	3-3	6-7½	11-9	11-3	34-0	113.52	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	227.60	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	14-9	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	

C-C-S-M-4-6-S-90° I

BILL OF REINFORCING STEEL FOR 44'-0" CULVERT

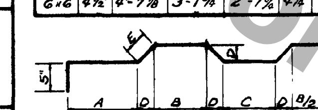
OPENINGS		BARREL REINFORCEMENT																			WING AND CURB REINFORCEMENT																				OPENINGS	
SIZE	NO.	BARS A				BARS A1				BARS B				#4 BARS C		#4 BARS D			#4 BARS E		#4 BARS F		#4 BARS F1		#4 BARS J		#4 BARS M		#4 BARS N		#4 BARS O		#4 BARS P		#4 BARS P1		#6 BARS X (A)		NO.	SIZE
		SIZE	NO.	LENGTH	SPAC.	SIZE	NO.	LENGTH	SPAC.	SIZE	NO.	LENGTH	SPAC	NO	① LENGTH	NO.	LENGTH	SPAC	NO	LENGTH	NO.	LENGTH	NO	LENGTH	NO	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO	LENGTH		
FEET				FT-IN.	IN.			FT-IN.	IN			FT-IN.	IN		FT-IN		FT-IN	IN.		FT-IN.		FT-IN.		FT-IN		FT-IN		FT-IN.		FT-IN.		FT-IN.		FT-IN.		FT-IN.		FT-IN.		FEET
4x4	2	#5	92	10-0	12	#5	92	3-10	12	#5	92	10-2¾	12	38	47-2	138	4-10	12	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	#5	92	14-6	12	#5	184	3-10	12	#5	92	14-11½	12	56	47-2	184	4-10	12	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	#5	92	19-0	12	#5	276	3-10	12	#5	92	19-8¼	12	74	47-2	230	4-10	12	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	#5	92	23-6	12	#5	368	3-10	12	#5	92	24-5	12	92	47-2	276	4-10	12	40	7-5	4	10-8	16	2-11	20	7-4	4	25-7	46	4-9	36	2-4	12	8-11	8	10-7	20	2-0	5	
	6	#5	92	28-0	12	#5	460	3-10	12	#5	92	29-1¾	12	110	47-2	322	4-10	12	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	#5	110	12-0	10	#5	110	4-4	10	#5	110	12-3¼	10	45	47-2	138	5-11	12	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	#5	110	17-6	10	#5	220	4-4	10	#5	110	18-0½	10	66	47-2	184	5-11	12	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	#5	110	23-0	10	#5	330	4-4	10	#5	110	23-9¾	10	87	47-2	230	5-11	12	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	#5	110	28-6	10	#5	440	4-4	10	#5	110	29-7	10	108	47-2	276	5-11	12	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	#5	110	34-0	10	#5	550	4-4	10	#5	110	35-4½	10	129	47-2	322	5-11	12	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	#6	78	14-0	14	#6	78	5-2	14	#6	80	14-3½	14	52	47-2	165	7-0	10	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	#6	78	20-6	14	#6	156	5-2	14	#6	80	21-1	14	76	47-2	220	7-0	10	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	#6	78	27-0	14	#6	234	5-2	14	#6	80	27-10½	14	100	47-2	275	7-0	10	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	#6	78	33-6	14	#6	312	5-2	14	#6	80	34-8	14	124	47-2	330	7-0	10	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	#6	78	40-0	14	#6	390	5-2	14	#6	80	41-5½	14	148	47-2	385	7-0	10	60	9-10	4	15-8	24	2-11	28	12-4	4	①43-7	80	4-11	56	3-4	16	13-11	12	15-7	28	2-0	6	

① Includes 1-1'-6" Lap Splice.

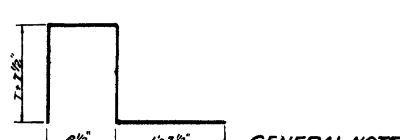
(A) #6 Bars X to be ¾"φ Smooth and Greased for 1'-0" of Length.

DIMENSIONS FOR BARS B

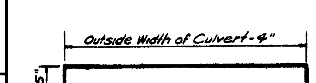
SIZE	PIN DIAM	A	B	C	D	E
4'x4'	3¾	3'-2 5/16	2'-2⅝	1'-8⅝	3⅜	4¾
5'x5'	3¾	3'-11 1/16	2'-8⅛	2'-2⅛	3⅞	5½
6'x6'	4½"	4'-7⅞"	3'-1¾"	2'-7¾"	4⅛"	6"



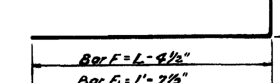
BARS B



#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 Concrete Sand.
For Detail of Joints; See Std. Plan C.M.-49.

Approved by

[signature] 1-11-78
Chief Engineer Date

1-11-78	Rev. Weep Hole Note	W.T.J.
[redacted]		

STANDARD PLAN
MULTIPLE OPENINGS
REINF. CONCRETE BOX CULVERT
STRAIGHT HDWLS. 2:1 SPILL SLOPE
DATED MAY 15, 1962 4'x4' 5'x5' 6'x6'

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

[redacted]

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