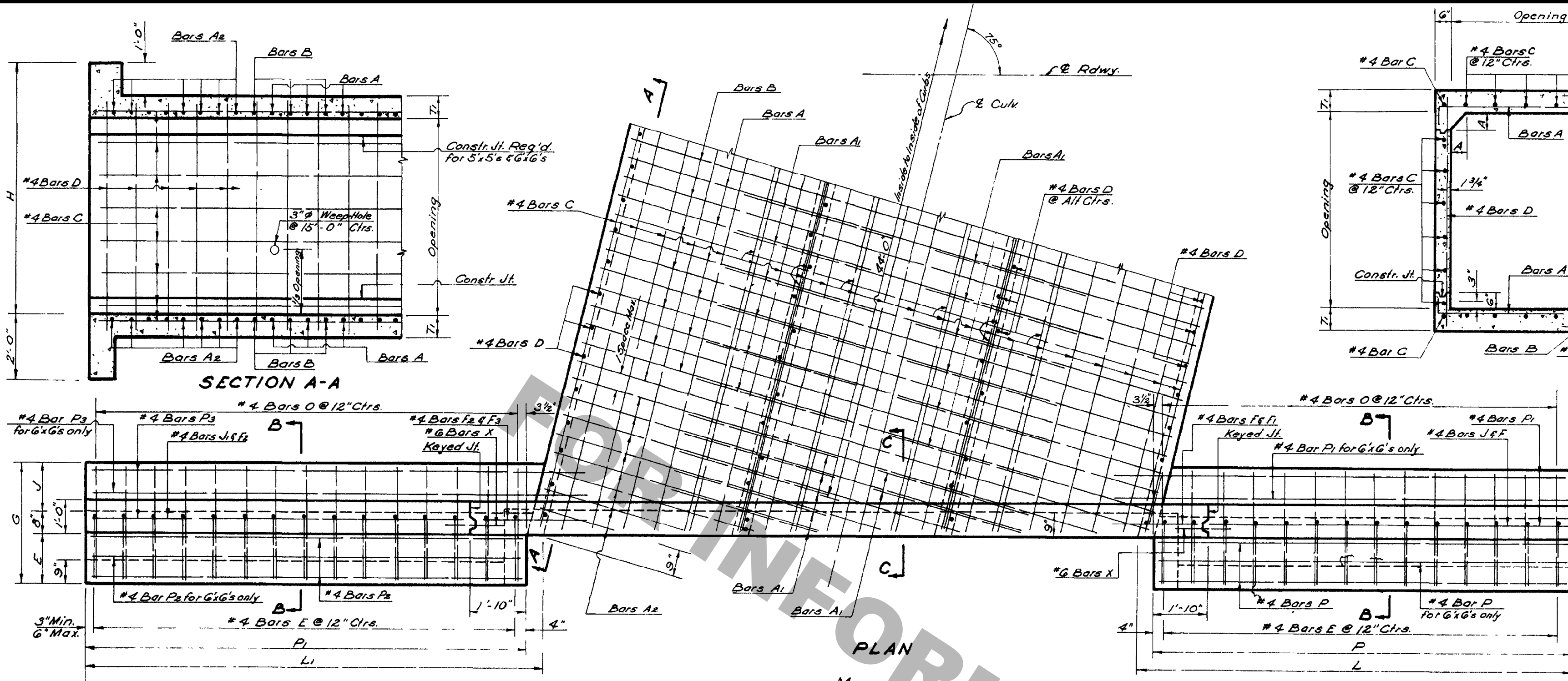
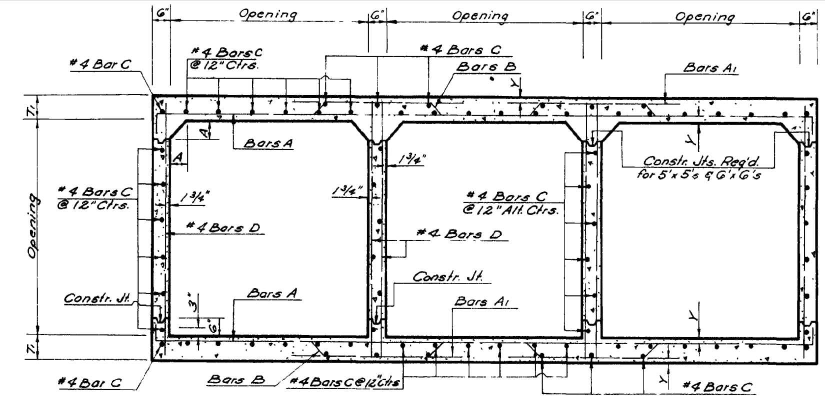
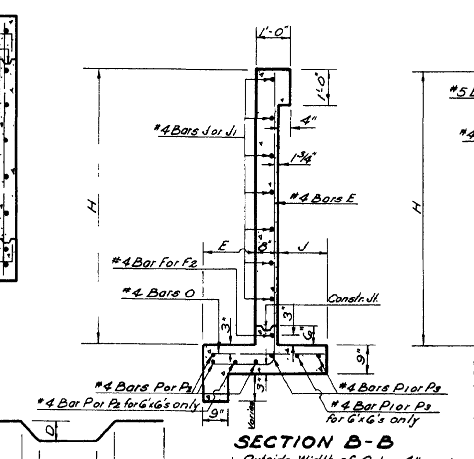
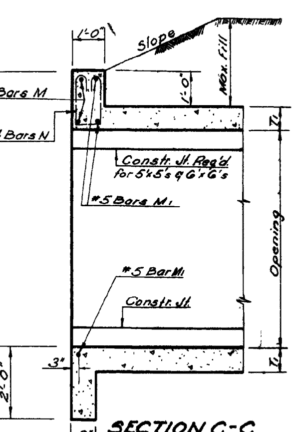
F.A.P.	STATE PROJECT	PARISH	SHEET NO.



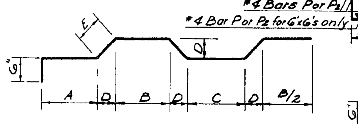




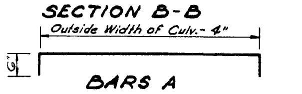


DIMENSIONS FOR BARS B

SIZE	PIN DIAM.	A	B	C	D	E
4'x4'	3¾"	3'-2 5/16"	2'-2 5/8"	1-0 5/8"	3 3/8"	4¾"
5'x5'	3¾"	3'-11 1/16"	2'-8 1/8"	2'-2 1/8"	3 7/8"	5½"
6'x6'	4½"	4'-7 7/8"	3'-1 3/4"	2'-7 3/4"	4¼"	6"

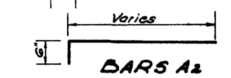


BARS B



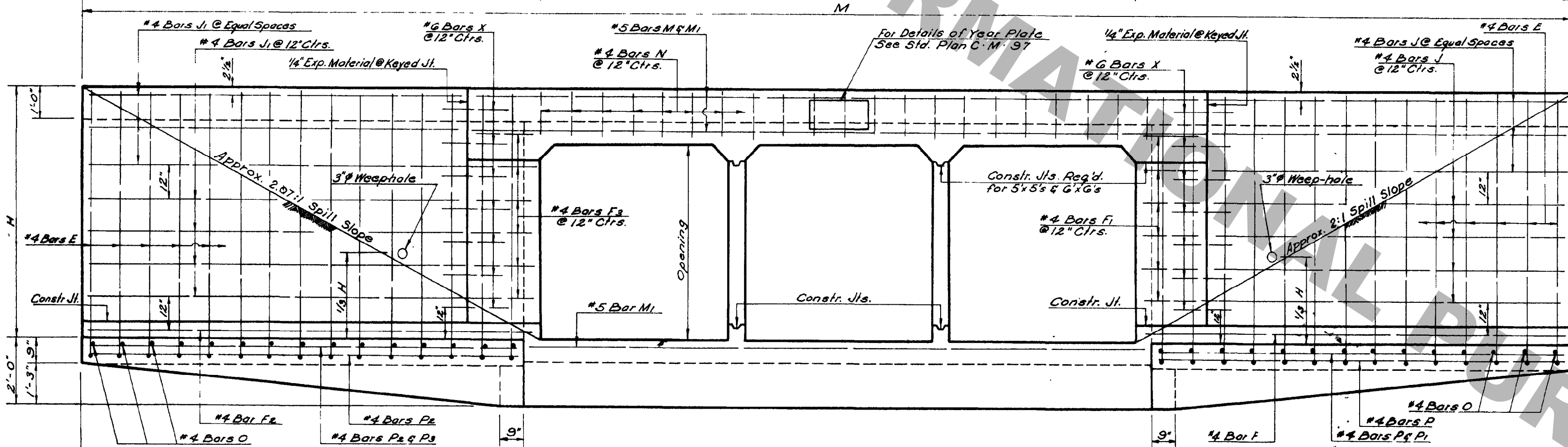
BARS A

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



BARS A2

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



END ELEVATION

DIMENSIONS / QUANTITIES

OPENINGS SIZE FEET	NO.	AREA SQ.FT.	MAX. FILL SLAB FEET	MAX. FILL WALL FEET	BARREL T1 IN.	BARREL A IN.	BARREL Y IN.	E FT-IN	J FT-IN	G FT-IN	H FT-IN	L FT-IN	L1 FT-IN	P FT-IN	P1 FT-IN	M FT-IN	PER LIN. FT OF BARREL STEEL LBS.	PER LIN. FT OF BARREL CONC. CU.YDS.	44'-0" CULVERT (ALONG ℄) STEEL LBS.	44'-0" CULVERT (ALONG ℄) CONC. CU.YDS.	OPENINGS NO.	OPENINGS SIZE FEET
	2	32	25													29-3 1/8	85.96	0.6409	4,755	40.73	2	
	3	48														33-10 15/16	128.46	0.9136	6,853	54.01	3	
4x4	4	64	32	13	7	4	1 13/16	1-3	0-10	2-9	5-7	10-1¼	10-4¼	9-7	9-10	38-6 13/16	170.96	1.1862	8,917	67.28	4	4x4
	5	80														43-2¾	213.46	1.4589	10,979	80.55	5	
	6	96														47-10 5/8	255.96	1.7315	13,145	93.82	6	
	2	50	21													36-1 15/16	114.35	0.8231	6,340	53.71	2	
	3	75														41-10 3/16	171.39	1.1767	9,135	70.67	3	
5x5	4	100	27	7	7½	5	1 13/16	1-5	1-2	3-3	6-7½	12-2¼	13-1¼	11-8	12-7	47-6½	228.43	1.5303	11,901	88.02	4	5x5
	5	125														53-2 7/8	285.48	1.8840	14,777	105.16	5	
	6	150														58-11 3/16	342.52	2.2377	17,547	122.31	6	
	2	72	15													42-4 11/16	138.58	1.0185	7888	67.63	2	
	3	108														49-1 7/16	207.75	1.4599	11264	88.96	3	
6x6	4	144	20	5	8	6	1 7/8	1-7	1-6	3-9	7-8	14-4 3/16	15-1 3/16	13-10	14-7	55-10 3/16	276.92	1.9012	14712	110.29	4	6x6
	5	180														62-6 15/16	346.09	2.3426	18158	131.62	5	
	6	216														69-3 11/16	415.26	2.7839	21729	152.96	6	

BILL OF REINFORCING STEEL FOR 44'-0" CULVERT

BARREL REINFORCEMENT

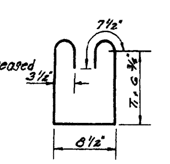
OPENINGS SIZE FEET	NO.	BARS A SIZE	BARS A NO	BARS A LGTH. FT-IN.	BARS A SPAC. IN.	BARS A1 SIZE	BARS A1 NO.	BARS A1 LGTH. FT-IN.	BARS A1 SPAC. IN.	BARS A2 SIZE	BARS A2 NO.	BARS A2 SHORT BAR FT-IN.	BARS A2 VAR. IN.	BARS A2 LONG BAR FT-IN.	BARS A2 SPAC. IN.	BARS B SIZE	BARS B NO.	BARS B LGTH. FT-IN.	BARS B SPAC. IN.	#4 BARS D NO.	#4 BARS D LGTH FT-IN.	#4 BARS D SPAC. IN.	#4 BARS C NO.	#4 BARS C ①LGTH. FT-IN.
	2	#5	86	10-2	12	#5	90	3-10	6 12	#5	16	3-0	22.3333	8-7	6	#5	88	10-4¾	12	138	4-10	12	38	47-2
	3	#5	84	14-8	12	#5	192	3-10	6 12	#5	28	3-0	22.3333	14-2	6	#5	84	15-1½	12	184	4-10	12	56	47-2
4x4	4	#5	82	19-2	12	#5	294	3-10	6 12	#5	36	3-0	22.3750	17-11	6	#5	82	19-10¼	12	230	4-10	12	74	47-2
	5	#5	80	23-8	12	#5	396	3-10	6 12	#5	44	3-0	22.4000	21-8	6	#5	80	24-7	12	276	4-10	12	92	47-2
	6	#5	76	28-2	12	#5	512	3-10	6 12	#5	56	3-0	22.3846	27-3	6	#5	78	29-3¾	12	322	4-10	12	110	47-2
	2	#5	102	12-2	10	#5	110	4-4	5 10	#5	24	3-0	18.6000	10-9	5	#5	104	12-5¼	10	138	5-11	12	45	47-2
	3	#5	98	17-8	10	#5	232	4-4	5 10	#5	40	3-0	18.6667	17-0	5	#5	100	18-2½	10	184	5-11	12	66	47-2
5x5	4	#5	96	23-2	10	#5	356	4-4	5 10	#5	52	3-0	18.6667	21-8	5	#5	96	23-11¾	10	230	5-11	12	87	47-2
	5	#5	92	28-8	10	#5	496	4-4	5 10	#5	68	3-0	18.6875	27-11	5	#5	92	29-9	10	276	5-11	12	108	47-2
	6	#5	88	34-2	10	#5	624	4-4	5 10	#5	80	3-0	18.6842	32-7	5	#5	90	35-6¼	10	322	5-11	12	129	47-2
	2	#6	74	14-2	14	#6	82	5-2	7&14	#6	20	3-0	26.2500	11-9	7	#6	74	14-5½	14	168	7-0	10	52	47-2
	3	#6	70	20-8	14	#6	168	5-2	7&14	#6	32	3-0	26.1429	18-3	7	#6	72	21-3	14	224	7-0	10	76	47-2
6x6	4	#6	68	27-2	14	#6	264	5-2	7&14	#6	44	3-0	26.1000	24-9	7	#6	68	28-0½	14	280	7-0	10	100	47-2
	5	#6	64	33-8	14	#6	360	5-2	7&14	#6	56	3-0	26.1538	31-4	7	#6	66	34-10	14	336	7-0	10	124	47-2
	6	#6	62	40-2	14	#6	470	5-2	7&14	#6	68	3-0	26.1250	37-10	7	#6	62	41-7½	14	392	7-0	10	148	47-2

WINGS AND CURBS REINFORCEMENT

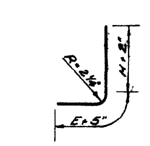
OPENINGS SIZE	NO.	#4 BARS E NO	#4 BARS E LGTH	#4 BARS F NO.	#4 BARS F LGTH.	#4 BARS F1 NO.	#4 BARS F1 LGTH.	#4 BARS F2 NO.	#4 BARS F2 LGTH.	#4 BARS F3 NO.	#4 BARS F3 LGTH.	#4 BARS J NO.	#4 BARS J LGTH.	#4 BARS J1 NO.	#4 BARS J1 LGTH.	#4 BARS O NO.	#4 BARS O LGTH.	#4 BARS P NO.	#4 BARS P LGTH.	#4 BARS P1 NO.	#4 BARS P1 LGTH.	#4 BARS P2 NO.	#4 BARS P2 LGTH.	#4 BARS P3 NO.	#4 BARS P3 LGTH.	#4 BARS N NO.	#4 BARS N LGTH.	#5 BARS M NO.	#5 BARS M LGTH.	#5 BARS M1 NO	#5 BARS M1 LGTH.	#6 BARS X Ⓐ NO.	#6 BARS X Ⓐ LGTH.
	2																									20	4-3	4	12-11	6	9-6	20	2-0
	3																									30	4-3	4	17-7	6	14-1	20	2-0
4x4	4	40	7-5	2	10-10	8	3-0	2	11-4½	8	3-3	10	7-5	10	7-8	40	2-4	6	9-3	4	10-10	6	9-6	4	11-6	38	4-3	4	22-3	6	18-9	20	2-0
	5																									48	4-3	4	26-11	6	23-5	20	2-0
	6																									58	4-3	4	31-7	6	28-1	20	2-0
	2																									24	4-4	4	15-0	6	11-6	24	2-0
	3																									36	4-4	4	20-8	6	17-3	24	2-0
5x5	4	50	8-7½	2	12-11	10	3-0	2	14-1½	10	3-3	12	9-6	12	10-5	50	2-10	6	11-4	4	12-11	6	12-3	4	14-4	48	4-4	4	26-5	6	22-11	24	2-0
	5																									58	4-4	4	32-1	6	28-7	24	2-0
	6																									70	4-4	4	37-9	6	34-4	24	2-0
	2																									28	4-5	4	17-1	6	13-7	28	2-0
	3																									42	4-5	4	23-10	6	20-4	28	2-0
6x6	4	58	9-10	2	15-1	12	3-0	2	16-1½	12	3-3	14	11-8	14	12-5	58	3-4	8	13-6	6	15-1	8	14-3	6	16-5	56	4-5	4	30-6	6	27-1	28	2-0
	5																									68	4-5	4	37-3	6	33-9	28	2-0
	6																									82	4-5	4	②45-10	6	②42-4	28	2-0

① Includes 1'-6" Lap Splice
② Includes 1'-10" Lap Splice

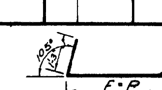
Ⓐ 6 Bars X to be ¾" φ Smooth and Greased for 1'-0" of Length.



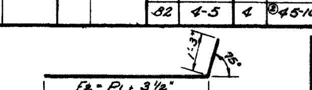
#4 BARS N
(3" Diam. Pin)



#4 BARS E



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



#4 BARS F2 & F3
(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 HS 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.-48.

Date	Description	By
5-30-75	Revised Spill Slope	W.T.J.
6-8-72	Rev. General Notes for Steel	W.E.M.
3-2-67	Added Axle Steel	W.E.M.
1-1-...	Rev. Weep Hole Note	W.T.J.

DATE	DESCRIPTION	BY
4-15-66	3-4'x4' Revised Total Steel	N.K.B.
12-14-64	4'x4' Spans Revised to Military Loading	W.E.M.
4-8-64	DEFORMED DOWELS 'X' TO SMOOTH	W.E.M.
3-11-63	4x4' & 5'x5' Added	

REVISIONS

STANDARD PLAN
MULTIPLE OPENINGS
REINF. CONCRETE BOX CULVERT
STRAIGHT WINGS 75° CROSSING
4'x4', 5'x5', 6'x6'
DATED Jan. 26, 1962

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

DESIGNED M. Yoshii | DETAILED M. Yoshii | TRACED [illegible]
CHECKED [illegible] | CHECKED W.E. Marcum | CHECKED [illegible]

APPROVED BY:
Dempsey D. White 1-11-78
CHIEF ENGINEER DATE

C·C·S·M·4-6·S·75°·1

FOR INFORMATIONAL PURPOSES ONLY