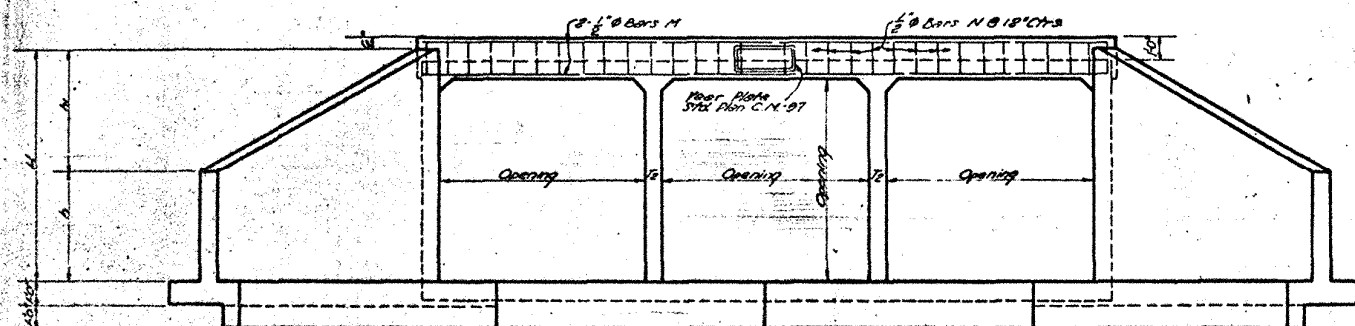
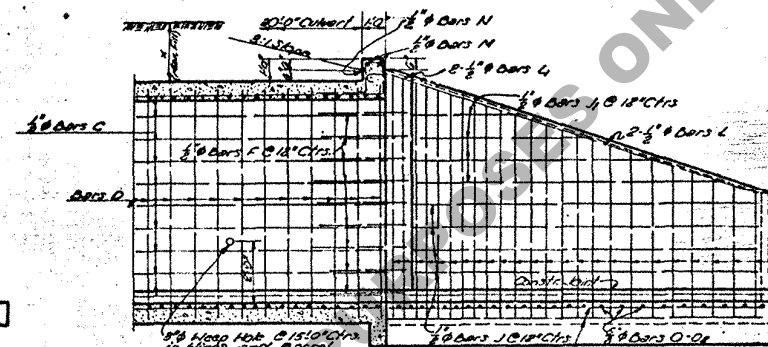


BILL OF STEEL FOR 30'-0" CULVERT																																																															
OPENINGS		BARREL REINFORCING																WINGS AND CURBS REINFORCING																																OPENINGS													
SIDE	NO.	1/2" BARS A				3/4" BARS A				1" BARS B				1 1/4" BARS C				BARS D				1 1/2" BARS E				1 3/4" BARS G				2" BARS L				2 1/2" BARS F				2 3/4" BARS J				3" BARS K				3 1/2" BARS M				3 3/4" BARS N				4" BARS O				4 1/2" BARS P				NO.	SIZE
		NO.	NO.	LGTH.	SQC.	NO.	NO.	LGTH.	SQC.	NO.	NO.	LGTH.	SQC.	NO.	NO.	LGTH.	SQC.	NO.	NO.	LGTH.	SQC.	NO.	NO.	LGTH.	SQC.	NO.	NO.	LGTH.	SQC.	NO.	NO.	LGTH.	SQC.	NO.	NO.	LGTH.	SQC.	NO.	NO.	LGTH.	SQC.	NO.	NO.	LGTH.	SQC.																		
7'x7'	1	50	17'-11"	15	50	5'-10"	15	52	17'-5 1/2"	15	59	5'-8"	12	8	147	8'-1"	8	44	4'-3 1/2"	6 1/2"	10'-1 1/2"	20	3'-0"	12	12	10'-2 1/2"	12	10	2'-3 1/2"	2 1/2"	9'-5"	8	11'-1 1/2"	0	2'-1"	4	16'-2"	34	5'-1"	20	3'-3 1/2"	2 1/2"	5'-11 1/2"	20	12'-1 1/2"	4	7'x7'																
	2	50	24'-8"	15	100	5'-10"	15	52	25'-4"	15	86	3'-8"	12	8	126	8'-1"	8	44	4'-3 1/2"	6 1/2"	10'-1 1/2"	20	3'-0"	12	12	10'-2 1/2"	12	10	2'-3 1/2"	2 1/2"	9'-5"	8	11'-1 1/2"	0	2'-1"	4	25'-9"	50	5'-1"	20	3'-3 1/2"	2 1/2"	5'-11 1/2"	20	12'-1 1/2"	4	7'x7'																
	3	50	52'-3"	15	150	5'-10"	15	52	33'-2 1/2"	15	113	3'-8"	12	8	245	8'-1"	8	44	4'-3 1/2"	6 1/2"	10'-1 1/2"	20	3'-0"	12	12	10'-2 1/2"	12	10	2'-3 1/2"	2 1/2"	9'-5"	8	11'-1 1/2"	0	2'-1"	4	31'-4"	64	5'-1"	20	3'-3 1/2"	2 1/2"	5'-11 1/2"	20	12'-1 1/2"	4	7'x7'																
	4	50	59'-10"	15	200	5'-10"	15	52	41'-1 1/2"	15	140	3'-8"	12	8	284	8'-1"	8	44	4'-3 1/2"	6 1/2"	10'-1 1/2"	20	3'-0"	12	12	10'-2 1/2"	12	10	2'-3 1/2"	2 1/2"	9'-5"	8	11'-1 1/2"	0	2'-1"	4	38'-11"	80	5'-1"	20	3'-3 1/2"	2 1/2"	5'-11 1/2"	20	12'-1 1/2"	4	7'x7'																
	5	50	149'-11"	15	250	5'-10"	15	52	104'-6 1/2"	15	167	3'-8"	12	8	343	8'-1"	8	44	4'-3 1/2"	6 1/2"	10'-1 1/2"	20	3'-0"	12	12	10'-2 1/2"	12	10	2'-3 1/2"	2 1/2"	9'-5"	8	11'-1 1/2"	0	2'-1"	4	148'-2"	96	5'-1"	20	3'-3 1/2"	2 1/2"	5'-11 1/2"	20	12'-1 1/2"	4	7'x7'																
8'x8'	1	54	19'-4"	14	54	6'-5"	14	56	19'-7 1/2"	14	64	3'-8"	12	8	147	9'-2"	8	32	3'-0"	12	12	10'-2 1/2"	12	10	2'-3 1/2"	2 1/2"	9'-5"	8	11'-1 1/2"	0	2'-1"	4	18'-5"	30	5'-2"	20	3'-3 1/2"	2 1/2"	5'-11 1/2"	20	12'-1 1/2"	4	8'x8'																				
	2	54	28'-0"	14	108	6'-5"	14	56	28'-8"	14	96	3'-8"	12	8	186	9'-2"	8	32	3'-0"	12	12	10'-2 1/2"	12	10	2'-3 1/2"	2 1/2"	9'-5"	8	11'-1 1/2"	0	2'-1"	4	26'-11"	36	5'-2"	20	3'-3 1/2"	2 1/2"	5'-11 1/2"	20	12'-1 1/2"	4	8'x8'																				
	3	54	36'-8"	14	162	6'-5"	14	56	37'-0 1/2"	14	126	3'-8"	12	8	245	9'-2"	8	32	3'-0"	12	12	10'-2 1/2"	12	10	2'-3 1/2"	2 1/2"	9'-5"	8	11'-1 1/2"																																		

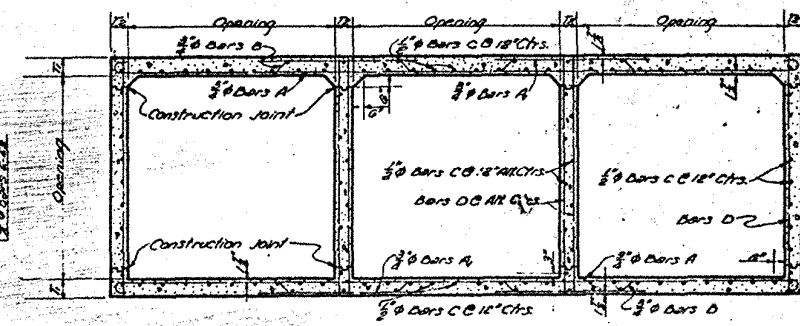
*Splice 40 diameters



SECTION A-A

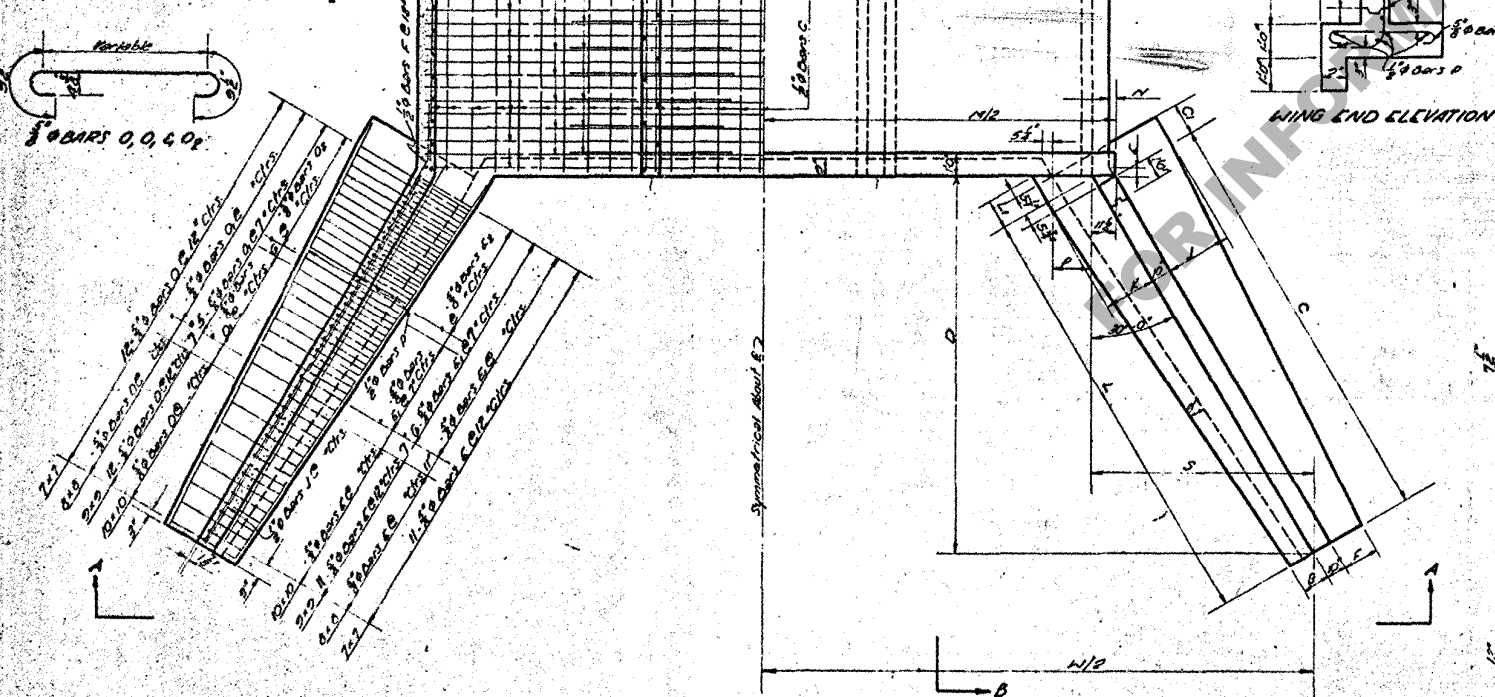
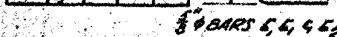


SECTION B-B



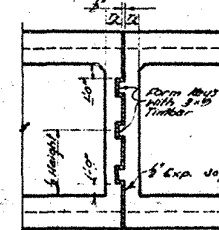
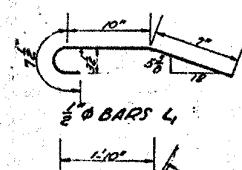
SECTION THRU BARREL

SIZE	BAR	VARIATIONS		
		ADD	VERT	TOTAL
7-9	E	14"	5 1/2"	6 1/2"
8-10	E			
	E1			
9-10	E	14 1/2"	5 3/4"	6 3/4"
	E1	14 1/2"	5 3/4"	6 3/4"
10-10	E			
	E1			



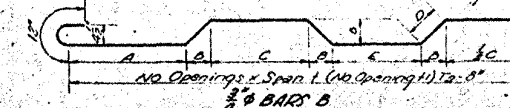
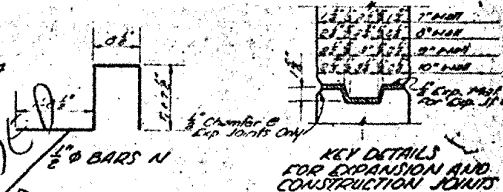
PART PLAN

OPENINGS		X	BARREL	DIMENSIONS																				QUANTITIES				OPENING		
				KINGS AND CURB																				PER UNIT FT. BARREL		FOR 50'-0" CULVERT				
SIZE FEET	NO.	ARCH SP. EX.	IN. FT.	T ₂ IN.	H FT. IN.	D FT. IN.	S FT. IN.	L FT. IN.	L ₁ FT. IN.	C FT. IN.	C ₁ FT. IN.	H FT. IN.	H ₁ FT. IN.	E IN.	N IN.	M FT. IN.	W FT. IN.	P FT. IN.	F FT. IN.	G FT. IN.	J FT. IN.	K FT. IN.	STEEL LBS.	CONC. CU YDS.	STEEL LBS.	CONC. CU YDS.	NO.	SIZE FEET		
7'x7'	2	90	11	8 1/2	7	8-2 1/2	10 1/2	6 0/8	12 0/2	0 1/2	11 0/2	1-0	3-0 1/2	5-2 1/2	7 1/2	4 1/2	16-6		1-0 1/2	0-11	0-9	2-3	1-8	174.58	129.86			2		
	4	147	11	8 1/2	7	8-2 1/2	10 1/2	6 0/8	12 0/2	0 1/2	11 0/2	1-0	3-0 1/2	5-2 1/2	7 1/2	4 1/2	24-1	34-2 1/2	1-0 1/2	0-11	0-9	2-3	1-8	256.22	185.70	34.53	73.30	3		
	4	196	11	8 1/2	7	8-2 1/2	10 1/2	6 0/8	12 0/2	0 1/2	11 0/2	1-0	3-0 1/2	5-2 1/2	7 1/2	4 1/2	31-8		1-0 1/2	0-11	0-9	2-3	1-8	338.13	241.54			4	7'x7'	
	5	235	11	8 1/2	7	8-2 1/2	10 1/2	6 0/8	12 0/2	0 1/2	11 0/2	1-0	3-0 1/2	5-2 1/2	7 1/2	4 1/2	39-3	49-4 1/2	1-0 1/2	0-11	0-9	2-3	1-8	424.08	292.38	147.69	112.82	3		
	6	294	11	8 1/2	7	8-2 1/2	10 1/2	6 0/8	12 0/2	0 1/2	11 0/2	1-0	3-0 1/2	5-2 1/2	7 1/2	4 1/2	46-10	58-1 1/2	1-0 1/2	0-11	0-9	2-3	1-8	513.95	353.22	179.48	135.89	2		
8'x8'	2	126	8	9	8	9-3								6	3 1/2	18-7								203.93	161.11			2		
	3	192	8	9	8	9-3								6	5 1/2	27-3								300.42	229.94			3		
	4	256	8	9	8	9-3								6	3 1/2	35-11								354.90	298.77			4	8'x8'	
	5	320	8	9	8	9-3								6	3 1/2	44-7									506.27	347.60			5	
	6	384	8	9	8	9-3								6	3 1/2	53-3										602.77	456.43			6
9'x9'	2	162	6	10	9	10-4	15-1 1/2	7-0 1/2	15-1 1/2	1-3 1/2	14-7 1/2	1-4 1/2	3-0 1/2	6-0 1/2	4 1/2	2 1/2	20-8		1-0 1/2	0-10	0-9	2-10	2-3	225.55	201.85			2		
	3	243	6	10	9	10-4	15-1 1/2	7-0 1/2	15-1 1/2	1-3 1/2	14-7 1/2	1-4 1/2	3-0 1/2	6-0 1/2	4 1/2	30-5	43-7 1/2	1-0 1/2	0-10	0-9	2-10	2-3	338.44	287.96	128.37	121.03	3			
	4	324	6	10	9	10-4	15-1 1/2	7-0 1/2	15-1 1/2	1-3 1/2	14-7 1/2	1-4 1/2	3-0 1/2	6-0 1/2	4 1/2	2 1/2	40-2		1-0 1/2	0-10	0-9	2-10	2-3	452.14	374.07			4	9'x9'	
	5	405	6	10	9	10-4	15-1 1/2	7-0 1/2	15-1 1/2	1-3 1/2	14-7 1/2	1-4 1/2	3-0 1/2	6-0 1/2	4 1/2	2 1/2	49-11		1-0 1/2	0-10	0-9	2-10	2-3	553.00	460.18			5		
10'x10'	2	200	5	11	10	11-5								5 1/2	1 1/2	22-0								285.02	247.22			2		
	3	300	5	11	10	11-5								5 1/2	1 1/2	39-7								390.87	325.57			3	10'x10'	
	4	400	5	11	10	11-5								5 1/2	1 1/2	44-3								550.56	457.92			4		
	5	500	5	11	10	11-5								5 1/2	1 1/2	55-3									649.41	563.27			5	



EXPANSION JOINT DETAILS

Note: Expansion Joint to be used only when number of openings is in excess of number printed in above Tables & special instructions will be given by G.I.

[illegible]

STANDARD PLAN
MULTIPLE OPENINGS
REINFORCED CONCRETE BOX CULVERT
7'x7'-8'x8'~9'x9'-10'x10'
90° CROSSING 2:1 SLOPE

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

CC 84-15

[illegible]