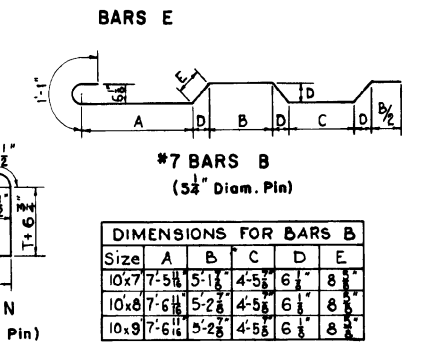


**DIMENSIONS FOR BARS E**

Opening	Bar Size	R	X	Y
10'x7'	#4	2 1/2"	2'-7"	2'-6"
10'x8'	#5	2 3/4"	2'-10"	2'-7 1/2"
10'x9'	#5	2 3/4"	2'-10"	2'-9 1/2"



**DIMENSIONS**

Openings	Max. Fill	Barrel												Wings and Curbs					Total Quantities			
		Size	No.	Area	Feet	T	N	A	F	E	J	G	D	H	L	P	P <sub>1</sub>	M	Per Linear Foot of Barrel	Steel	Concrete	
10x7	6	2	140	6	10	8	15/16	15/16	1-11	1-8	4-5	1 3/4	8-10	16-6 1/2	19-5 1/2	15-9	18-8	59-9 1/2	270.50	1.8951	15,040	122.95
10x8	6	4	280	10	8	10	15/16	15/16	2-0	2-0	4-10	1 1/8	9-10	18-8 1/2	22-3/8	17-10	21-2	77-1 1/2	415.11	2.9537	22,989	181.54
10x9	5	4	360	10	5	10	15/16	15/16	2-2	2-4	5-4	1 1/8	10-10	21-1 3/8	23-3/8	20-3	22-7	80-11 1/2	429.21	3.0648	24,469	194.79
		5	450	10	5	10	15/16	15/16	2-2	2-4	5-4	1 1/8	10-10	21-1 3/8	23-3/8	20-3	22-7	93-4 1/2	588.56	3.9877	32,302	239.25

**BILL OF REINFORCING STEEL FOR 44'-0" CULVERT**

OPENINGS	BARREL REINFORCEMENT										WINGS AND CURBS REINFORCEMENT																																														
	# 7 BARS A		# 7 BARS A1		# 7 BARS A2		# 7 BARS B		# 5 BARS D <sub>1</sub> D <sub>2</sub> D <sub>3</sub>		# 5 BARS D <sub>2</sub> D <sub>3</sub>		# 5 BARS C		BARS E		BARS E1		# 4 BARS F		# 4 BARS F1		# 4 BARS F2		# 4 BARS F3		# 4 BARS J		# 4 BARS O		# 4 BARS P		# 4 BARS P1		# 4 BARS P2		# 4 BARS P3		# 4 BARS N		# 6 BARS X		# 6 BARS M		# 6 BARS M1		# 6 BARS X										
	SIZE	No.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.	No.	LENGTH	SP.							
10x7	2	58	23-3 1/2	14	86	7-7	14	80	2-8	12.1053	21-10	7	58	23-8 1/2	14	94	3-0	7-2	12	47	3-0	7-2	12	71	47-5																																
10x8	2	58	23-3 1/2	14	86	7-7	14	80	2-9	12.1053	21-11	7	58	23-11 1/2	14	94	3-0	8-2	12	47	3-0	8-2	12	74	47-5																																
10x9	2	58	23-3 1/2	14	86	7-7	14	80	2-9	12.1053	21-11	7	58	23-11 1/2	14	106	3-0	9-2	10 1/2	53	3-0	9-2	10 1/2	77	47-5																																

Ⓢ Includes 1'-2'-7" Lap Splice.  
 Ⓢ Includes 1'-1'-6" Lap Splice.  
 Ⓢ Includes 1'-2'-2" Lap Splice.  
 Ⓢ Does not include Lap Splice. When Bar Length Exceeds 40'-0", Add 1'-2'-7" Lap Splice.

Ⓢ # C Bars X to be 3/4" Smooth and Greased for 1'-0" of Length.

**GENERAL NOTES:**  
 Design Specifications: A.A.S.H.O. 1969 as Amended to 1971.  
 Construction Specifications: Latest Approved Louisiana Department of Highways Standard Specifications.  
 All Concrete to be Class "A".  
 All Exposed Corners to Have 3/4" Chamfer Unless Otherwise Noted.  
 Reinforcement shall be Intermediate or Hard Grade A.S.T.M. A15, or Axle Steel A.S.T.M. A160, or Rail Steel A.S.T.M. A16, conforming to A.S.T.M. A305. 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 Details of Joints, See Standard Plan CM-49

**STANDARD PLAN**  
 MULTIPLE OPENINGS  
 REINFORCED CONCRETE BOX CULVERTS  
 STRAIGHT WINGS 60° CROSSING  
 2:1 SPILL SLOPE NORMAL TO CHANNEL

DATED: May 20 1975 10'x7', 10'x8' & 10'x9'

STATE OF LOUISIANA  
 DEPARTMENT OF HIGHWAYS

DESIGNED	DETAILS	BAROUSSE	TRACED	A.L. CARRICK
CHECKED	CHECKED	BACCI	CHECKED	BAROUSSE