



| DIMENSIONS | | | | | | | | | | | | | | QUANTITIES | | | | | | |
|--------------------|----|--------------|---------------|-----------------|--------|-------|-----|---------|----------|----------|----------|-------|-----------|------------|-----------------|--------------|------------------------|--------------|--------------------|------------------|
| OPENINGS SIZE FEET | NC | AREA SQ. FT. | MAX. FILL FT. | SLABS WALLS FT. | BARREL | | | | | | | | | | WINGS AND CURBS | | PER LIN. FT. OF BARREL | | OPENINGS SIZE FEET | |
| | | | | | T | Y | E | J | G | H | L | L1 | P | P1 | M | STEEL POUNDS | CONCRETE CU.YDS. | STEEL POUNDS | | CONCRETE CU.YDS. |
| 6x4 | 2 | 40 | 10 | | 8 | 1 1/2 | 10 | 2-9 | 5-8 | 10-6 1/2 | 14-6 1/2 | 10-0 | 13-10 | 42-11 1/2 | 127.76 | 0.9074 | 9,190 | 71.79 | 2 | 6x4 |
| | 3 | 72 | | | | | | | | | | | | 52-1 1/2 | 193.32 | 1.3117 | 13,124 | 96.56 | 3 | |
| | 4 | 96 | 20 | 12 | | | | | | | | | | 101-3 1/2 | 256.66 | 1.7161 | 16,437 | 125.32 | 4 | |
| | 5 | 120 | | | | | | | | | | | | 170-6 1/2 | 324.45 | 2.1204 | 23,242 | 152.09 | 5 | |
| | 6 | 144 | | | | | | | | | | | | 199-8 3/4 | 401.17 | 2.5247 | 28,373 | 176.65 | 6 | |
| 6x5 | 2 | 60 | 15 | | 1 1/2 | 1-2 | 3-3 | 6-8 | 12-8 1/2 | 17-5 1/2 | 12-0 | 16-9 | 47-10 1/2 | 131.76 | 0.9630 | 9,701 | 79.94 | 2 | 6x5 | |
| | 3 | 90 | | | | | | | | | | | | 57-0 1/2 | 196.66 | 1.3656 | 14,320 | 107.67 | 3 | |
| | 4 | 120 | 20 | 7 | | | | | | | | | | 66-2 1/2 | 265.56 | 1.8657 | 19,117 | 135.60 | 4 | |
| | 5 | 150 | | | | | | | | | | | | 115-5 1/2 | 332.40 | 2.2915 | 24,007 | 183.73 | 5 | |
| | 6 | 180 | | | | | | | | | | | | 154-7 1/2 | 410.52 | 2.8444 | 29,223 | 191.06 | 6 | |
| 7x4 | 2 | 56 | 12 | | 1-3 | 10 | 2-9 | 5-8 1/2 | 10-6 1/2 | 14-6 1/2 | 10-0 | 13-10 | 45-9 1/2 | 149.66 | 1.0540 | 10,662 | 81.42 | 2 | 7x4 | |
| | 3 | 84 | | | | | | | | | | | | 56-4 1/2 | 227.54 | 1.5309 | 16,040 | 112.93 | 3 | |
| | 4 | 112 | 10 | 12 | | | | | | | | | | 66-11 1/2 | 305.20 | 2.0077 | 21,616 | 144.44 | 4 | |
| | 5 | 140 | | | | | | | | | | | | 117-6 1/2 | 382.66 | 2.4640 | 27,450 | 175.94 | 5 | |
| | 6 | 168 | | | | | | | | | | | | 166-2 1/2 | 472.54 | 2.9614 | 33,672 | 207.43 | 6 | |

BILL OF REINFORCING STEEL FOR 60'-0" CULVERT

| BARREL REINFORCEMENT | | | | | | | | | | CURBS AND WINGS REINFORCEMENT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---------------|-------------------------|--|------------------------|------------------------|------------------------|------------------------|------------------------|-------------------------|-------------------------------|-------------------------|------------------------|-------------------------|------------------------|------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|-------------------------|------------------------|-----|------|-----|-----|-----|-----|-----|-------|-----|-------|-----|-----|-----|-----|-----|-------|-----|-------|-----|-----|-----|-----|---|------|---|------|----|-----|-----|-----|---|------|---|------|----|-----|
| OPENINGS SIZE FEET | #4 BARS A No. | #4 BARS A1 Length Spac. | #4 BARS A2 Short Bar Var. Long Bar Spac. | #4 BARS D Length Spac. | #4 BARS C Length Spac. | #4 BARS D Length Spac. | #4 BARS E Length Spac. | #4 BARS F Length Spac. | #4 BARS F1 Length Spac. | #4 BARS F2 Length Spac. | #4 BARS F3 Length Spac. | #4 BARS J Length Spac. | #4 BARS J1 Length Spac. | #4 BARS O Length Spac. | #4 BARS P Length Spac. | #4 BARS P1 Length Spac. | #4 BARS P2 Length Spac. | #4 BARS P3 Length Spac. | #4 BARS N Length Spac. | #4 BARS M Length Spac. | #4 BARS M1 Length Spac. | #4 BARS X Length Spac. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | | | | | | | | | | | | | | | |
| 6x4 | 2 | 14-2 | 14 | 112 | 5-2 | 14 | 60 | 2-1 | 1.0000 | 13-2 | 7 | 66 | 14-5 1/2 | 14 | 46 | 63-10 | 169 | 5-0 | 36 | 4-5 | 4 | 22-7 | 6 | 16-7 | 20 | 2-0 | 56 | 4-5 | 4 | 31-10 | 6 | 27-10 | 24 | 2-0 | 74 | 4-5 | 4 | 43-2 | 6 | 31-0 | 20 | 2-0 | 92 | 4-5 | 4 | 52-4 | 6 | 46-4 | 24 | 2-0 | 110 | 4-5 | 4 | 61-7 | 6 | 57-7 | 24 | 2-0 |
| 6x5 | 2 | 14-2 | 14 | 112 | 5-2 | 14 | 60 | 2-1 | 1.0000 | 13-2 | 7 | 66 | 14-5 1/2 | 14 | 49 | 63-10 | 169 | 6-0 | 36 | 4-5 | 4 | 22-7 | 6 | 16-7 | 24 | 2-0 | 56 | 4-5 | 4 | 31-10 | 6 | 27-10 | 24 | 2-0 | 74 | 4-5 | 4 | 43-2 | 6 | 31-0 | 24 | 2-0 | 92 | 4-5 | 4 | 52-4 | 6 | 46-4 | 24 | 2-0 | 110 | 4-5 | 4 | 61-7 | 6 | 57-7 | 24 | 2-0 |
| 7x4 | 2 | 16-2 | 13 | 122 | 5-6 | 13 | 104 | 2-1 | 1.0000 | 15-2 | 6 | 66 | 16-6 | 13 | 50 | 63-10 | 189 | 5-1 | 44 | 4-6 | 4 | 25-5 | 6 | 21-5 | 20 | 2-0 | 64 | 4-6 | 4 | 36-1 | 6 | 32-0 | 20 | 2-0 | 84 | 4-6 | 4 | 46-10 | 6 | 44-10 | 20 | 2-0 | 106 | 4-6 | 4 | 59-5 | 6 | 55-5 | 20 | 2-0 | 126 | 4-6 | 4 | 70-0 | 6 | 66-0 | 20 | 2-0 |

① Incl. One 1'-6" Lap Splice.
 ② Incl. One 2'-2" Lap Splice.
 ③ Does Not Incl. Lap Splice when Bar Length Exceeds 40'-0" Add One 2'-2" Lap Splice.

④ #4 Bars X to be 3/8" Smooth and Graced for 1'-0" of Length.
 APPROVED BY: *Dennis D. White* 1-5-78
 CHIEF ENGINEER DATE

General Notes:
 Construction Specifications: Latest Approved La. Dept. of Hwys. Standard Specifications.
 Design Specifications: A.S.H.O. 1961 as Amended by Int. Specs. 1964
 Live Load: HS 20-44 or Military, whichever is Greater.
 All Concrete to be Class "A".
 All Exposed Corners to Have 3/4" Chamfer, Unless Otherwise Noted.
 Reinforcement Shall be Billet-Steel A.S.T.M. A 615 or Rail-Steel A.S.T.M. A 616 or Axle-Steel A.S.T.M. A 617.
 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.

C-C-S-M-6-7-R-45° I
 STANDARD PLAN
 MULTIPLE OPENINGS
 REINF. CONCRETE BOX CULVERT
 STRAIGHT WINGS 45° CROSSING
 2:1 SPILL SLOPE NORMAL TO CHANNEL
 6'x4' 6'x5' 7'x4'

DESIGNED: *Earl J. Martel*
 CHECKED: *W.E. Grice*
 DATED: Dec. 29, 1964

STATE OF LOUISIANA
 DEPARTMENT OF HIGHWAYS
 TRACED: *J.L. Road*
 CHECKED: *W.E. Grice*

REVISIONS
 IN CHARGE OF