STATE	PROJECT NUMBER	SHEET No.	TOTAL SHEETS
GA.			

NOTE: THE DESIGN OF CULVERT SHALL BE DETERMINED BY THE MAXIMUM HEIGHT OF FILL WITH ONLY A SINGLE DESIGN BEING USED FOR THE ENTIRE INSTALLATION.

TRIPLE BOX CULVERT
BARREL REINFORCEMENT QUANTITIES AND DIMENSIONS

DESIGN	1	2	3	4	5
T_1	8½"	11"	12⅜"	14½"	16"
T_2	9"	11¼"	13¾"	14⅜"	16¼"
T_3	7½"	9"	10½"	11⅜"	13½"
X	29'-5"	29'-8"	29'-11"	30'-1½"	30'-4½"
Y	9'-5½"	9'-10¼"	10'-2"	10'-5¾"	10'-8¼"
*CU. YDS. CLASS A CONCRETE	2.32	2.84	3.28	3.66	4.04
*LBS. BAR REINFORCEMENT STEEL	299.73	415.26	522.49	631.20	754.87
BARS A	NO. 6 AT 14" C = D = 2'-3"	NO. 6 AT 11" C = D = 2'-8"	NO. 6 AT 12" C = D = 2'-6"	NO. 7 AT 12" C = D = 2'-10"	NO. 7 AT 12" C = 4'-2" D = 2'-11"
BARS B	2 NO. 6 x 6'-8" BETWEEN	2 NO. 6 x 6'-10" BETWEEN	2 NO. 7 x 7'-3" BETWEEN	NO. 7 & NO. 8 x 7'-9" BETWEEN	2 NO. 8 x 20'-0" ⊛ BETWEEN
BARS C	NO. 5 AT 14" K=1'=3"; C=3'-8"; E=2'-6"	NO. 5 AT 11" K=1'=2"; C=3'-6"; E=2'-8"	NO. 6 AT 12" K=1'-2"; C=3'-6"; E=2'-8"	NO. 6 AT 12" K=1'-2"; C=3'-8"; E=2'-6"	NO. 7 AT 12" K=1'-2"; C=3'-0"; E=2'-10"
BARS D	NO. 6 AT 14"	NO. 7 AT 11"	NO. 8 AT 12"	NO. 9 AT 12"	NO. 9 AT 12"
BARS E	NO. 3 AT 14"	NO. 3 AT 11"	NO. 4 AT 12"	NO. 4 AT 12"	NO. 4 AT 12"
BARS F	NO. 4 AT 14"	NO. 4 AT 11"	NO. 4 AT 12"	NO. 4 AT 12"	NO. 4 AT 12"
BARS G	NO. 4 AT 14"	NO. 4 AT 11"	NO. 4 AT 12"	NO. 4 AT 12"	NO. 4 AT 12"
BARS J	78 NO. 4	78 NO. 4	78 NO. 4	78 NO. 4	78 NO. 4
**NO. BARS J IN 2 SLABS	50	50	50	50	50
BARS K	--	--	1 AT 12"	1 AT 12"	3 AT 7"
BARS L	--	1 AT 11"	3 AT 8"	5 AT 5½	7 AT 4"
BARS M	--	1 AT 11"	1 AT 12"	3 AT 8"	4 AT 5"
BARS N	--	--	1 AT 12"	1 AT 11"	3 AT 7"
BARS P	--	1 AT 11"	3 AT 8"	5 AT 5"	7 AT 4"
BARS Q	--	1 AT 11"	1 AT 12"	3 AT 7⅜"	4 AT 5"
BARS R	NO. 5 AT 14" K=1'=4"; C=3'-8"; E=2'-6"	NO. 5 AT 11" K=1'-2"; C=3'-6"; E=2'-8"	NO. 6 AT 12" K=1'-1"; C=3'-3"; E=2'-6"	NO. 6 AT 12" K=1'-2"; C=3'-2"; E=2'-4"	NO. 7 AT 12" K=1'-2"; C=3'-0"; E=2'-10"
BARS U	2 NO.6x6'-8" BETWEEN	2 NO.6x6'-10" BETWEEN	2 NO. 7x7'-3" BETWEEN	NO.7 & NO.8x7'-9"BETWEEN	NO.7 & 8x8'-0" BETWEEN
BARS V	NO. 6 AT 14"	NO. 7 AT 11"	NO. 8 AT 12"	NO. 9 AT 12"	NO. 9 AT 12"
BARS W	NO. 3 AT 14"	NO. 3 AT 11"	NO. 4 AT 12"	NO. 4 AT 12"	NO. 4 AT 12"
MAX. FILL OVER TOP	10'	20'	30'	40'	50'
*PER LINEAR FT.					
**REMAINDER J BARS SPACED ALT. IN WALLS					

DESIGN (MAX.-FILL OVER TOP)	60'
T_1	18¼"
T_2	18⅜"
T_3	16¼"
X	30'-10½"
Y	11'-1"
* CU. YDS. CLASS A CONCRETE	4.6864
* LBS. BAR REINFORCEMENT STEEL	674.02
BARS A	NO. 5 @ 12" C = D = 3'-1"
BARS B	2 NO. 8 X 19'-2" BETWEEN ⊛
BARS C	NO. 5 @ 12" K=1'-5"; C=3'-10"; E=3'-3"
BARS D	NO. 9 @ 12"
BARS E	NO. 5 @ 12"
BARS F	NO. 4 @ 12"
BARS G	NO. 4 @ 12"
BARS J	78 NO. 4
** NO. BARS J IN TWO SLABS	50
BARS K	NO. 2 @ 7"
BARS L	NO. 7 @ 4"
BARS M	NO. 4 @ 5½"
BARS N	NO. 2 @ 8"
BARS P	NO. 7 @ 4"
BARS Q	NO. 4 @ 5½"
BARS R	NO. 5 @ 12" K=1'-5"; C=3'-10"; E=3'-3"
BARS U	2 NO. 8 X 17'-8" BETWEEN ⊛
BARS V	NO. 9 @ 12"
BARS W	NO. 5 @ 12"

BOX CULVERT REQUIREMENTS:

MINIMUM FILL HEIGHT FROM TOP OF CULVERT TO BOTTOM OF BASE WITHIN TRAVELWAY SHALL BE 12 INCHES.

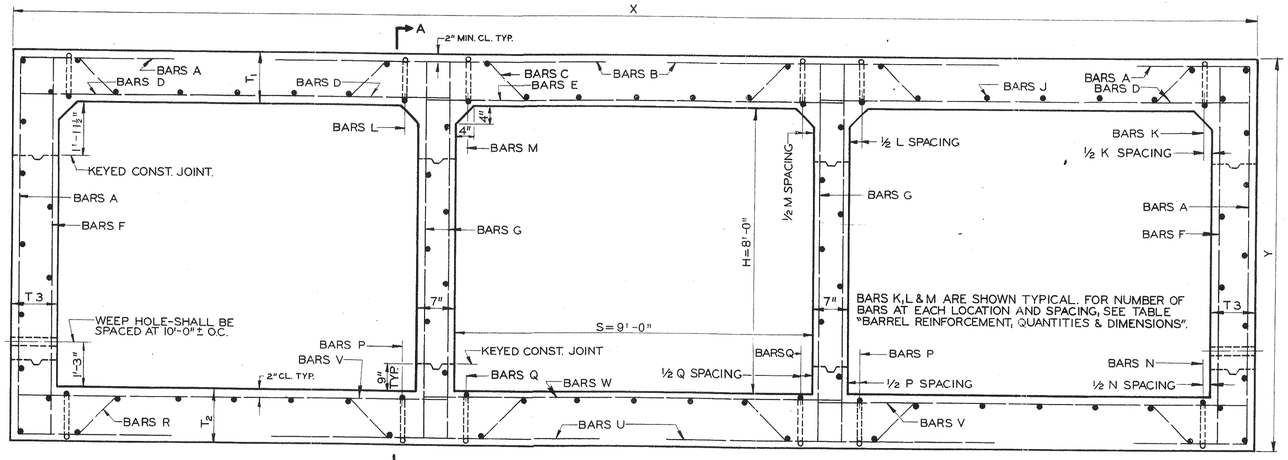
MAXIMUM POUR LENGTH SHALL NOT EXCEED 30 FEET ALONG THE LENGTH OF THE CULVERT.

TRANSVERSE CONSTRUCTION JOINTS SHALL BE PLACED IN THE BARREL, NORMAL TO THE CENTERLINE OF CULVERT, AT THE OUTSIDE SHOULDER BREAK POINTS. LONGITUDINAL BARREL REINFORCING STEEL SHALL NOT BE CONTINUOUS THROUGH THESE JOINTS, PROVIDED THAT THE JOINTS ARE MORE THAN 15 FEET FROM THE BARREL ENDS.
WHEN TRANSVERSE CONSTRUCTION JOINTS OCCUR WITHIN 15 FEET OF THE BARREL ENDS OR WITHIN THE LIMITS OF THE PAVEMENT, THE LONGITUDINAL BARREL REINFORCING SHALL THEN BE CONTINOUS THROUGH SUCH JOINTS. THE MINIMUM LENGTH OF LAP SPLICE FOR LONGITUDINAL REINFORCING SHALL BE 24 INCHES.

TRANSVERSE CONSTRUCTION JOINTS PLACED AT ANY OTHER LOCATION NOT SPECIFIED ABOVE SHALL BE FORMED WITH NO LONGITUDINAL REINFORCING STEEL PASSING THROUGH THE JOINTS.

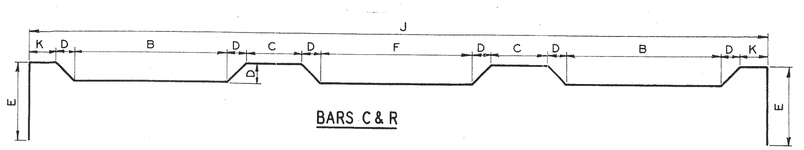
NOTE: BARS B OR U THAT ARE SHOWN AS TWO BETWEEN BARS C OR R SHALL BE EQUALLY SPACED BETWEEN BARS C OR R.

⊛ CENTER ON MIDDLE BARREL: TOTAL OF 2.

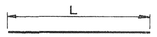


BAR A: B=H+T1+T2 MINUS 4"; C & D GIVEN.
BARS B & U: LENGTH GIVEN
BAR C: J=X MINUS 4"; D=T1 MINUS 4"; K,C & E GIVEN;
B=S+T3+1½" MINUS (K+2D+.5C); F=S+7" MINUS (C+2D)
BARS D & V: LENGTH=S+T3+16.67d MINUS 2".
BARS E & W: LENGTH=S+33.33d.
BARS F & G: LENGTH=H+T1+T2 MINUS 4".
BARS J: LENGTH=POUR MINUS 4" EXCEPT ADD PORTIONS BENT INTO WALLS AND PARAPETS.
BARS K,L,M: B=SPACING OF BAR C+1"+DIAMETER OF BAR C
C & D=T1 MINUS 3"
BARS N,P,Q: B=SPACING OF BARS R+1"+DIAMETER OF BAR R.
C & D=T2 MINUS 3"
BAR R: J=X MINUS 4"; D=T2 MINUS 4"; K,C & E GIVEN;
B=S+T3+1½" MINUS (K+2D+.5C); F=S+7" MINUS (C+2D).

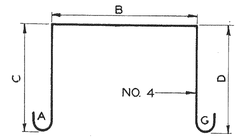
BARREL SECTION



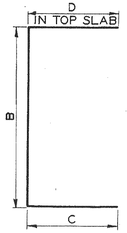
BARS C & R



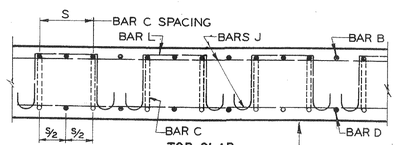
BARS B,D,E,F,G,U,V,W



BARS K, L, M, N, P, Q

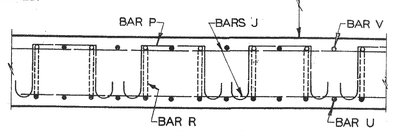


BARS A



TOP SLAB

NOTE: BARS B OR U SHOWN IN SECTION AS ONE BAR EQUALLY SPACED BETWEEN BARS C OR R. TWO BARS B OR U EQUALLY SPACED BETWEEN BARS C OR R SHALL BE USED WHEN REQUIRED.



BOTTOM SLAB
SECTION A-A

NOTE: BEND LONGITUDINAL BARS INTO WINGS AND PARAPETS SIMILAR TO STANDARDS. IF CULVERT IS SKEWED CUT TRANSVERSE STEEL AND BEND 12" INTO PARAPET OR TOE WALL AND HOOK.

ADD REQUIREMENT NOTE 11-26-01

BY	REVISIONS	DATE
R.J.S.	ADD 60' FILL DESIGN	9-18-73
R.J.S.	DELETE BAR INCREASE TO #9	2-28-80
R.M.W.	ADD FILL HEIGHT NOTE	11-4-97

BRIDGE SHEET OF

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

REINFORCED CONCRETE BOX CULVERTS
TRIPLE 9'-0" x 8'-0"

NO SCALE

DESIGNED E.E.L.	TRACED M.L.F.	REVIEWED F.B.
DRAWN E.E.L.	CHECKED B.D.M.	APPROVED