STATE	PROJECT NUMBER	SHEET No.	TOTAL SHEETS
GA.	TSAP 193 (9)	90	135

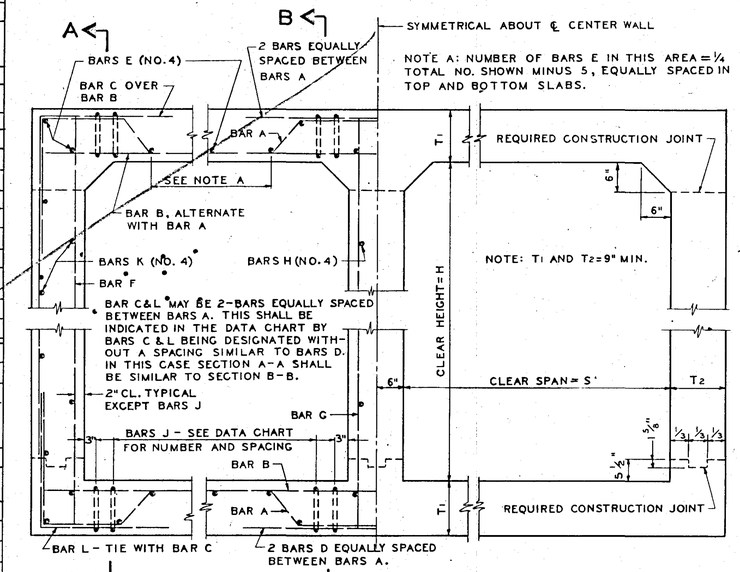
DELETED 5-19-83

DATA CHART

DESIGN (S; H; FILL OVER TOP)	DBL 7-7-10	DBL 7-7-20	DBL 7-7-30	DBL 7-7-40	DBL 7-7-50	DBL 7-7-60	DBL 7-7-70	DBL 7-7-80
T_1	9"	9 3/4"	11 1/4"	13 1/4"	14 1/2"	15 3/4"	17 1/4"	18 3/4"
T_2	9"	9"	9 1/2"	11"	12 1/4"	13 1/4"	15"	16 3/4"
BAR "A": C DIM. E DIM. G DIM.	NO. 5 AT 12" C = 3'-6" E = 1'-5" G = 3'-6"	NO. 6 AT 12" C = 3'-8" E = 1'-3" G = 3'-8"	NO. 6 AT 12" C = 3'-8" E = 1'-3" G = 3'-9"	NO 6 AT 12" C = 3'-9" E = 1'-0" G = 3'-9"	NO 7 AT 12" C = 3'-0" E = 1'-0" G = 3'-9"	NO 7 AT 12" C = 3'-0" E = 1'-1" G = 4'-0"	NO 7 AT 12" C = 2'-9" E = 1'-3" G = 4'-0"	NO 7 AT 12" C = 2'-9" E = 1'-4" G = 4'-0"
BAR "B"	NO.4 AT 12"	NO.5 AT 12"	NO.5 AT 12"	NO 5 AT 12"	NO 5 AT 12"	NO 5 AT 12"	NO 5 AT 12"	NO 5 AT 12"
BAR "C" A DIM.	NO.4 AT 12" A = 2'-0"	NO.4 AT 12" A = 2'-0"	NO.4 AT 12" A = 2'-0"	NO 4 AT 12" A = 2'-5"	NO 4 AT 12" A = 2'-5"	NO 4 AT 12" A = 2'-6"	NO 4 AT 12" A = 2'-7"	NO 4 AT 12" A = 2'-8"
BAR "D": SIZE & LENGTH	NO.4; L=6'-2"	NO.6; L=6'-2"	NO.6; L=6'-2"	NO 6; L=6'-2"	NO 6; L=7'-0"	NO 6; L=8'-2"	NO 7; L=8'-2"	NO 7; L=8'-2"
NO. BARS "E" IN 2 SLABS	36	36	36	36	36	36	36	36
BAR "F"	NO.4 AT 12"	NO.4 AT 12"	NO.4 AT 12"	NO 4 AT 12"	NO 4 AT 12"	NO 4 AT 12"	NO 4 AT 12"	NO 4 AT 12"
BAR "G"	NO.4 AT 12"	NO.4 AT 12"	NO.4 AT 12"	NO 4 AT 12"	NO 4 AT 12"	NO 4 AT 12"	NO 4 AT 12"	NO 4 AT 12"
NO. BARS "J" EXT. CORNER	0	0	1	1	1	1	1	1
NO. BARS "J" INT. CORNER	0	1	2 AT 8 1/2"	2 AT 6 1/2"	3 AT 5"	5 AT 4"	6 AT 3 1/2"	7 AT 3"
NO. BARS "H" IN INT. WALL	10	10	10	10	10	10	10	10
NO. BARS "K" IN EXT. WALLS	18	18	18	18	18	18	18	18
BAR "L" A DIM.	NO.4 AT 12" A = 2'-0"	NO.4 AT 12" A = 2'-0"	NO.4 AT 12" A = 2'-0"	NO 4 AT 12" A = 2'-5"	NO 4 AT 12" A = 2'-5"	NO 4 AT 12" A = 2'-6"	NO 4 AT 12" A = 2'-7"	NO 4 AT 12" A = 2'-8"
CU. YDS. CONC. PER FT.	1.5833	1.6597	1.8516	2.1299	2.3325	2.5233	2.7894	3.0058
LBS. REINF. STEEL PER FT.	171.34	242.30	260.92	248.96	290.51	314.92	344.55	355.64

DESIGN (S; H; FILL OVER TOP)	DBL 9-6-10	DBL 9-6-20	DBL 9-6-30	DBL 9-6-40	DBL 9-6-50
T_1	9 1/4"	12"	14"	15"	17"
T_2	9"	9"	9 1/2"	10"	11"
BAR "A": C DIM. E DIM. G DIM.	NO. 5 AT 12" C = 4'-8" E = 1'-6" G = 4'-6"	NO. 6 AT 12" C = 4'-8" E = 1'-6" G = 4'-6"	NO. 7 AT 11 1/2" C = 4'-10" E = 1'-6" G = 4'-6"	NO. 7 AT 12" C = 4'-10" E = 1'-9" G = 4'-9"	NO. 7 AT 12" C = 4'-10" E = 2'-0" G = 4'-9"
BAR "B"	NO.5 AT 12"	NO.6 AT 12"	NO.6 AT 11 1/2"	NO. 6 AT 12"	NO. 7 AT 12"
BAR "C" A DIM.	NO.4 AT 12" A = 2'-6"	NO.4 AT 12" A = 2'-6"	NO.4 AT 11 1/2" A = 2'-6"	NO. 4 AT 12" A = 2'-9"	NO. 4 AT 12" A = 3'-0"
BAR "D": SIZE & LENGTH	NO.6; L=8'-0"	NO.7; L=8'-3"	NO.7; L=8'-4"	NO. 7; L=9'-0"	NO. 7; L=9'-0"
NO. BARS "E" IN 2 SLABS	44	44	44	44	44
BAR "F"	NO.4 AT 12"	NO.4 AT 12"	NO.4 AT 11 1/2"	NO. 4 AT 12"	NO. 4 AT 12"
BAR "G"	NO.4 AT 12"	NO.4 AT 12"	NO.4 AT 11 1/2"	NO. 4 AT 12"	NO. 4 AT 12"
NO. BARS "J" EXT. CORNER	0	0	0	0	1
NO. BARS "J" INT. CORNER	0	2	3	4 AT 6"	5 AT 4"
NO. BARS "H" IN INT. WALL	10	10	10	10	10
NO. BARS "K" IN EXT. WALLS	18	18	18	18	18
BAR "L" A DIM.	NO.4 AT 12" A = 2'-6"	NO.4 AT 12" A = 2'-6"	NO.4 AT 11 1/2" A = 2'-6"	NO. 4 AT 12" A = 2'-9"	NO. 4 AT 12" A = 3'-0"
CU. YDS. CONC. PER FT.	1.7445	2.0926	2.3715	2.6018	2.8480
LBS. REINF. STEEL PER FT.	225.17	307.25	358.42	351.37	390.68

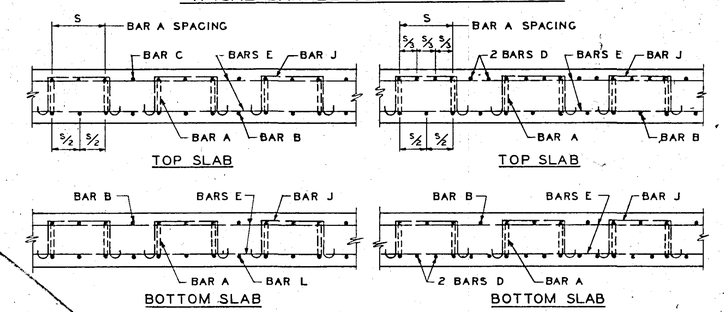
NOTE: BEND LONGITUDINAL BARS INTO WINGS AND PARAPETS SIMILAR TO STANDARDS. IF CULVERT IS SKEWED CUT TRANSVERSE STEEL AND BEND 12" INTO PARAPET OR TOE WALL AND HOOK.

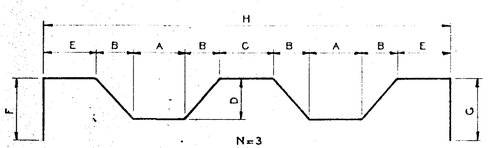


NOTE A: NUMBER OF BARS E IN THIS AREA = 1/4 TOTAL NO. SHOWN MINUS 5, EQUALLY SPACED IN TOP AND BOTTOM SLABS.

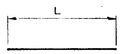
NOTE: T1 AND T2 = 9" MIN.

TYPICAL BARREL SECTION - ALL DESIGNS

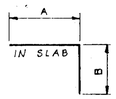




TYPE 50

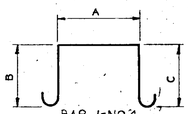


TYPE 1



TYPE 3

NOTE: NO. OF "J" BARS SHOWN IN DATA CHART IS THE NO. PER CORNER IN ANY ONE PLANE. THE TOTAL NO. OF "J" BARS REQUIRED DEPENDS UPON THE LENGTH OF THE SECTION.



BAR J-NO.4
TYPE 36

NOTE: FOR DIMENSIONS NOT SHOWN SEE DATA CHART.

BAR "A": $B=D=T_1-4"$; $G=F$; $H=2T_2+2S+8"$; $A=H-4B-C-2E$.

BAR "B": $L=2T_2+2S+8"$.

BAR "C": $B=H+T_1-7\frac{1}{2}"$.

BAR "F": $L=H+2T_1-4"$.

BAR "G": $L=H+2T_1-4"$.

BAR "J": A = SPACING OF BAR "A" + 1" + DIA. OF BAR "A"; $B=C=T_1-3"$.

BAR "L": $B=T_1+3\frac{1}{2}"+X$; NOTE: $X = 24\Phi$ FOR BARS NO.4-7.
$X = 25.36\Phi^2$ FOR BARS NO.8-11.

NOTE: Φ = DIA. OF BAR "L".

REVISIONS	BY	DATE
ADD 7'X7' 40' TO 80' FILL	R.J.S.	9-18-73
DELETE BAR INCREASE TO 9"	R.J.S.	2-28-80
ADD DBL 9'-6"X6'-6"	R.J.S.	4-6-81
ELE. - GA. STD. 3160	E.L.H.	5-11-82

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SHEET 1

SPECIAL DESIGN DOUBLE BOX CULVERT

7 X 7 - 9 X 6

NO SCALE

BRIDGE SHEET OF

DESIGNED GCL | TRACED WPR | REVIEWED
DRAWN GCL | CHECKED BFR | APPROVED

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