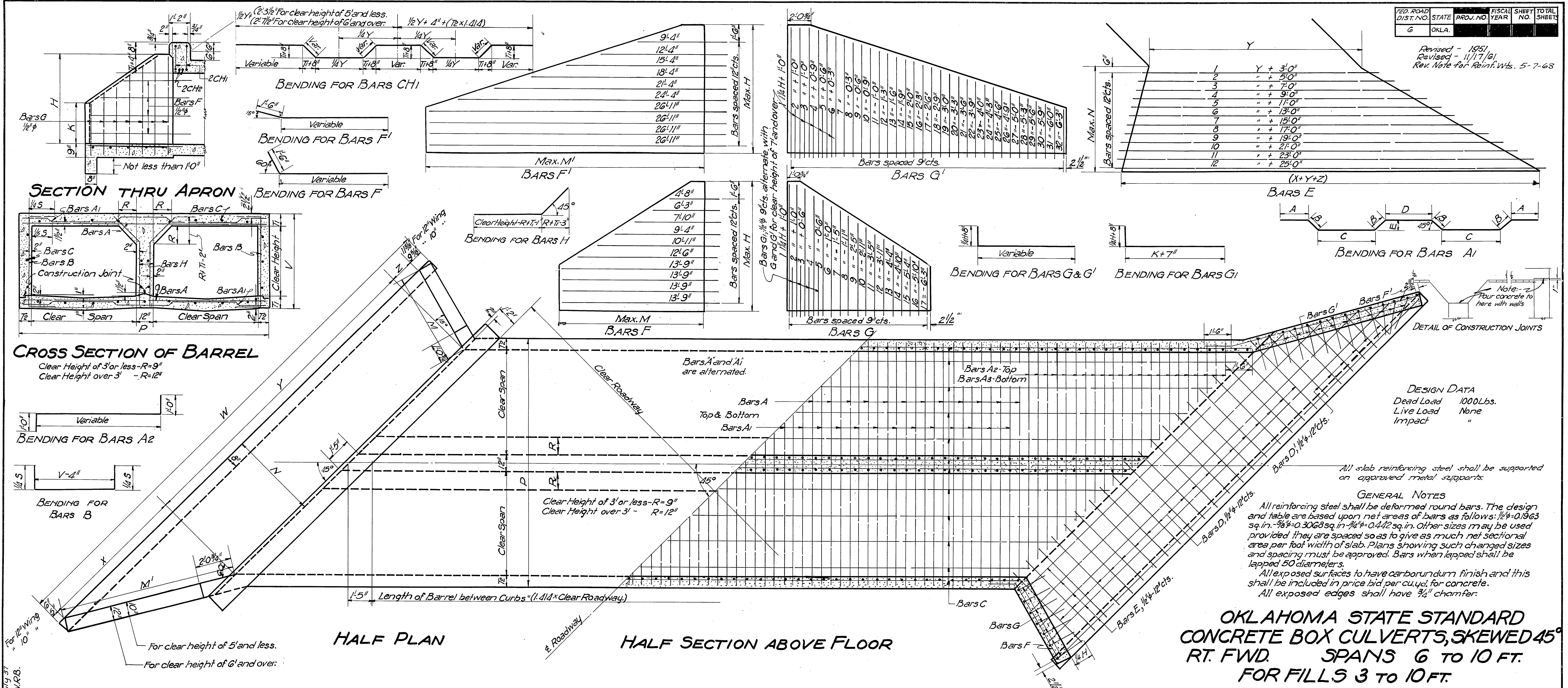


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				

Revised - 1951
Revised - 11/17/61
Rev. Note for Reinf. Wts. 5-7-63



DESIGN DATA

Dead Load	1000 Lbs.
Live Load	None
Impact	"

All slab reinforcing steel shall be supported on approved metal supports.

GENERAL NOTES

All reinforcing steel shall be deformed round bars. The design and table are based upon net areas of bars as follows: $\frac{1}{2}$ "-0.1963 sq. in., $\frac{3}{8}$ "-0.3068 sq. in., $\frac{1}{4}$ "-0.442 sq. in. Other sizes may be used provided they are spaced so as to give as much net sectional area per foot width of slab. Plans showing such changed sizes and spacing must be approved. Bars when lapped shall be lapped 50 diameters. All exposed surfaces to have carborundum finish and this shall be included in price bid per cu. yd. for concrete. All exposed edges shall have $\frac{3}{4}$ " chamfer.

OKLAHOMA STATE STANDARD
CONCRETE BOX CULVERTS, SKEWED 45°
RT. FWD. SPANS 6 TO 10 FT.
FOR FILLS 3 TO 10 FT.

Detailed by D.S. Marshall, April 1930. Retraced by R.F. July 31, 1930. Traced & Checked by J.B. Shelton, Jan. 1931. Retraced by: -N.R.B.

WATERWAY DESIGN NO.	BARREL OF CULVERT															TWO WINGS AND ONE APRON															TWO CURBS					TOTAL QUANTITIES		DESIGN NO.																				
	DIMENSIONS					REINFORCING STEEL					DIMENSIONS					REINFORCING STEEL					QUANTITIES		QUANTITIES																																			
	Clear Span	Clear Height	Area of Opening	BARS A AND A1			BARS A2 AND A3			BARS B	BARS C	BARS H	H	K	M	M'	N	W	X	Y	Z	BARS D	BARS D'	BARS E	BARS F	BARS F'	BARS G	BARS G'	BARS G''	Reinf. Steel Lbs.	Class A Concrete Cu. Yds.	Reinf. Steel Lbs.	Class A Concrete Cu. Yds.	Reinf. Steel Lbs.	Class A Concrete Cu. Yds.																							
				Size and Spacing	Length	Length	Length	Length	Length																											Length	Length		Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length
1	2'-0"	24"	9'	6"	3'-6"	14'-0"	5/8"x12"	13'-8"	14'-4"	11/16"	7"	3'-7"	2'-7"	5"	5/8"x6"	48	15'-2"	15'-2"	15'-2"	6'-2"	26	3'-8 1/2"	94.94	0.947	3'-1"	14 1/4"	24 1/8"	5'-6"	2'-9"	25 1/4"	4'-9 1/2"	18'-4 1/2"	0'-8 1/2"	19	3'-2"	3	2'-10"	2	4'-2"	2	5'-5"	1	9'-4"	2	10'-10"	6	144	2.51	24 1/2"	19'-9"	185	1.78	0.62	5926	61.61	1		
2	3'-0"	36"	9'	8"	4'-6"	14'-4"	"	14'-0"	14'-8"	13/16"	7"	3'-7"	2'-7"	5"	"	48	15'-4"	15'-4"	15'-4"	7'-2"	30	4'-8 1/2"	102.70	1.076	4'-1"	2'-2"	4'-0"	7'-9 1/2"	3'-10 1/2"	27'-4 1/2"	6'-9"	"	1'-0"	19	4'-4"	5	4'-0"	4	1'-4"	2	5'-5"	1	9'-4"	2	10'-10"	6	222	3.87	24'-4"	20'-0"	188	1.80	0.68	6525	71.76	2		
3	4'-0"	48"	9'	8"	5'-6"	14'-4"	"	14'-0"	14'-8"	13/16"	7"	3'-7"	2'-7"	5"	"	48	15'-4"	15'-4"	15'-4"	7'-2"	30	5'-10"	106.56	1.179	5'-1"	2'-4"	5'-2"	10'-1"	5'-0 1/2"	29'-8 1/2"	8'-3 1/2"	"	1'-4 1/4"	19	5'-6"	7	5'-0"	5	2'-10"	4	1'-4"	2	5'-5"	1	9'-4"	2	10'-10"	6	308	5.45	24'-4"	20'-0"	188	1.80	0.73	6917	80.85	3
4	5'-0"	60"	9'	10"	6'-6"	14'-8"	"	14'-4"	15'-0"	15/16"	7"	3'-7"	2'-7"	5"	"	48	15'-6"	15'-6"	15'-6"	8'-2"	34	6'-10"	113.41	1.346	6'-1"	2'-7"	6'-5 1/2"	12'-5"	6'-2 1/2"	32'-0 1/4"	10'-9"	"	1'-8"	19	6'-8"	9	6'-0"	6	2"	3	7'-9"	2	3	15'-5"	9	409	7.25	24'-6"	20'-2"	190	1.82	0.79	7563	94.04	4			
5	6'-0"	72"	9'	10"	7'-6"	14'-8"	"	14'-4"	15'-0"	15/16"	7"	3'-7"	2'-7"	5"	"	48	15'-6"	15'-6"	15'-6"	10'-2"	38	7'-10"	120.66	1.444	7'-1"	2'-10"	7'-7 1/2"	14'-3 1/2"	7'-4 1/4"	34'-6 1/4"	12'-8 1/2"	"	1 1/8"	19	7'-9"	11	7'-0"	7	3"	3	9'-0"	3	3	17'-9"	11	525	10.07	24'-10"	20'-5"	193	1.85	0.85	8162	105.37	5			
6	3'-0"	48"	12'	8"	5'-0"	18'-4"	3/4"x13"	18'-0"	19'-1"	15/16"	11 1/4"	4'-9"	2'-10"	8"	3/4"x6 1/2"	58	19'-0"	19'-0"	19'-0"	8'-8"	32	5'-4"	151.19	1.638	4'-4"	3'-5"	4'-0"	7'-9 1/2"	3'-10 1/2"	33'-0 1/2"	6'-9"	24 1/2"	26	4'-4"	5	4'-0"	4	1'-4"	2	5'-5"	1	9'-4"	2	10'-10"	6	261	4.57	30'-1"	25'-8"	339	2.26	0.82	9518	105.69	6			
7	4'-0"	64"	12'	8"	6'-0"	18'-4"	"	18'-0"	19'-1"	15/16"	11 1/4"	4'-9"	2'-10"	8"	"	58	19'-0"	19'-0"	19'-0"	9'-8"	36	6'-5"	157.69	1.741	5'-4"	2'-8"	5'-2"	10'-1"	5'-0 1/2"	35'-2 1/4"	8'-8 1/2"	"	1'-4 1/4"	26	5'-6"	7	5'-0"	5	2'-10"	4	1'-4"	2	5'-5"	1	9'-4"	2	10'-10"	6	358	6.35	30'-1"	25'-8"	339	2.26	0.87	10086	115.18	7
8	5'-0"	80"	12'	10"	7'-0"	18'-8"	"	18'-4"	19'-5"	1 7/16"	11 1/4"	4'-9"	2'-10"	8"	"	58	19'-2"	19'-2"	19'-2"	10'-8"	40	7'-5"	165.91	1.913	6'-4"	2'-11"	6'-5 1/2"	12'-5"	6'-2 1/2"	37'-3 1/2"	10'-9"	"	1'-8"	26	6'-8"	9	6'-0"	6	2"	3	7'-9"	2	3	15'-5"	9	469	8.39	30'-4"	25'-10"	342	2.29	0.93	10778	129.14	8			
9	6'-0"	96"	12'	10"	8'-0"	18'-8"	"	18'-4"	19'-5"	1 7/16"	11 1/4"	4'-9"	2'-10"	8"	"	58	19'-2"	19'-2"	19'-2"	11'-8"	40	8'-5"	169.53	2.012	7'-4"	3'-1"	7'-7 1/2"	14'-8 1/2"	7'-4 1/4"	40'-2 1/2"	12'-8 1/2"	"	1 1/8"	26	7'-9"	11	6'-0"	6	2"	3	9'-0"	3	3	17'-9"	11	595	11.42	30'-8"	26'-1"	345	2.32	0.99	11241	140.95	9			
10	7'-0"	112"	12'	10"	9'-0"	18'-8"	"	18'-4"	19'-5"	1 7/16"	11 1/4"	4'-9"	2'-10"	8"	"	58	19'-2"	19'-2"	19'-2"	12'-8"	44	9'-5"	175.88	2.111	8'-2"	3'-4"	8'-9 1/2"	17'-0"	8'-6"	48'-2 1/4"	14'-8 1/2"	"	2 3/8"	26	8'-11"	13	8'-0"	7	4"	3	10'-2"	4	3	20'-0"	12	633	14.10	30'-8"	26'-1"	345	2.32	1.05	12220	152.03	10			
11	8'-0"	128"	12'	11"	10'-0"	18'-10"	"	18'-6"	19'-7"	1 7/8"	11 1/4"	4'-9"	2'-10"	8"	"	58	19'-4"	19'-4"	19'-4"	13'-8"	48	10'-5"	183.16	2.272	9'-4"	3'-7"	10'-0"	19'-4"	9'-8"	44'-10 1/2"	16'-8 1/2"	"	2 7/8"	26	10'-1"	15	9'-0"	7	4"	3	11'-4"	5	3	22'-4"	14	715	15.54	30'-10"	26'-4"	348	2.33	1.11	13017	167.05	11			
12	6'-0"	120"	14 1/2"	10"	8'-5"	22'-8"	3/4"x10"	22'-4"	23'-9"	1 9/16"	12 1/4"	5'-0"	3'-3"	10 1/2"	3/4"x5-5"	94	23'-2"	23'-2"	23'-2"	13'-1"	46	8'-11"	239.27	2.659	7'-6 1/2"	3'-3"	7'-7 1/2"	14'-8 1/2"	7'-4 1/4"	45'-10 1/2"	12'-8 1/2"	29'-8 1/2"	11'-1 1/2"	31	7'-9"	10	7'-0"	9	3	Var.	3	9'-0"	3	Var.	3	17'-9"	11	655	12.74	36'-10"	31'-9"	417	2.78	1.13	15351	180.93	12	
13	7'-0"	140"	14 1/2"	10"	9'-5"	22'-8"	"	22'-4"	23'-9"	1 9/16"	12 1/4"	5'-0"	3'-3"	10 1/2"	"	94	23'-2"	23'-2"	23'-2"	14'-1"	50	9'-11"	245.62	2.757	8'-6 1/2"	3'-6"	8'-9 1/2"	17'-0"	8'-6"	48'-2 1/4"	14'-8 1/2"	"	2 3/8"	31	8'-11"	12	8'-0"	9	4"	3	10'-2"	4	3	20'-0"	12	984	15.61	36'-10"	31'-9"	417	2.78	1.19	16375	192.33	13			
14	8'-0"	160"	14 1/2"	11"	10'-5"	22'-10"	"	22'-6"	23'-11"	1 10/16"	12 1/4"	5'-0"	3'-3"	10 1/2"	"	94	23'-4"	23'-4"	23'-4"	15'-1"	50	10'-11"	250.46	2.920	9'-6 1/2"	3'-9"	10'-0"	19'-4"	9'-8"	50'-6 1/2"	16'-8 1/2"	"	2 7/8"	31	10'-4"	14	8'-0"	9	5"	3	11'-4"	5	3	22'-4"	14	1177	18.71	37'-0"	31'-1"	419	2.79	1.25	17037	207.88	14			
15	9'-0"	180"	14 1/2"	12"	11'-5"	23'-0"	"	22'-8"	24'-1"	1 11/16"	12 1/4"	5'-0"	3'-3"	10 1/2"	"	94	23'-4"	23'-4"	23'-4"	16'-1"	54	11'-11"	258.03	3.096	10'-6 1/2"	4'-0"	11'-2 1/2"	21'-8"	10'-10"	52'-10 1/2"	18'-9 1/2"	"	2 10/16"	31	11'-3"	16	9'-0"	9	6"	3	12'-7"	6	3	24'-8"	15	1376	22.06	37'-1"	32'-0"	420	2.80	1.30	17867	224.65	15			
16	10'-0"	200"	14 1/2"	12"	12'-5"	23'-0"	"	22'-8"	24'-1"	1 11/16"	12 1/4"	5'-0"	3'-3"	10 1/2"	"	94	23'-4"	23'-4"	23'-4"	17'-1"	58	12'-11"	264.37	3.207	11'-6 1/2"	4'-3"	12'-4 1/2"	23'-1"	11'-11 1/2"	55'-1"	20'-8 1/2"	"	3 2/16"	31	12'-5"	18	10'-0"	9	7"	4	13'-9"	6	4	26'-1"	17	1600	25.58	37'-1"	32'-0"	420	2.80	1.36	18679	238.08	16			

Quantities shown for reinforcing steel shall be reduced by 1 1/2% (L.O.S.) to comply with approved C.R.S.I. weights per foot for reinforcing bars.