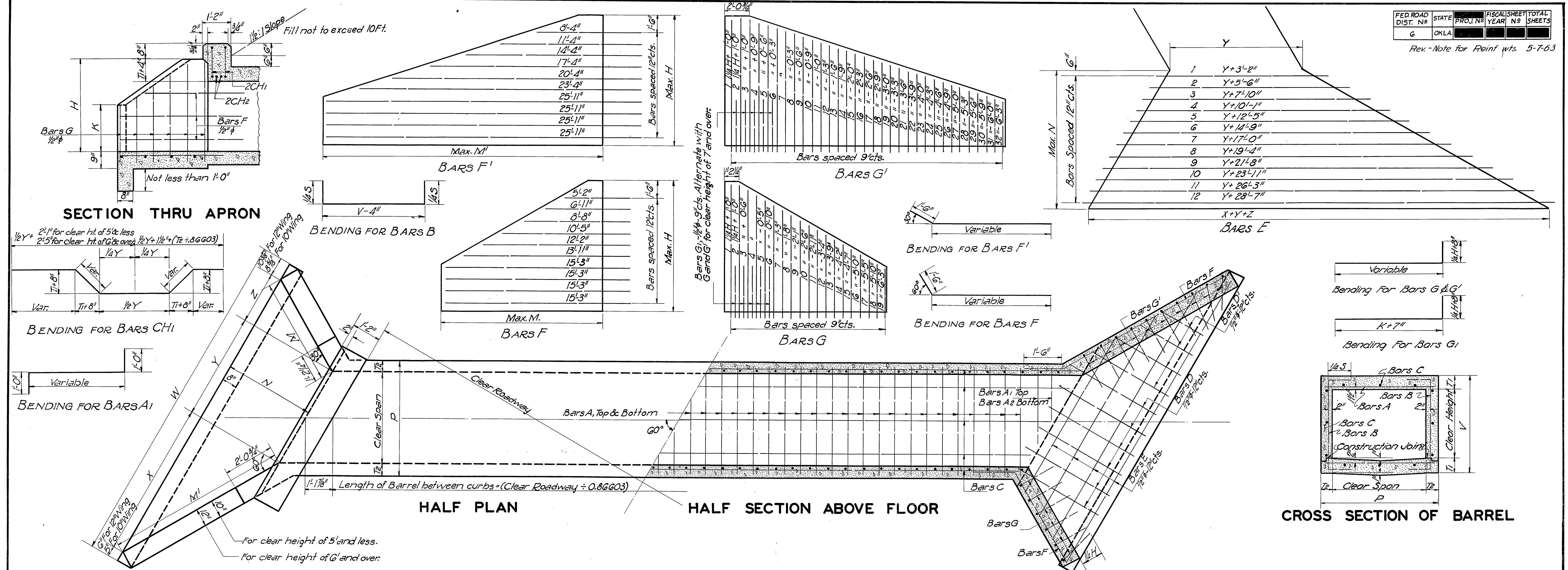


FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				

Rev. Note for Reinf wts. 5-7-63



**GENERAL NOTES**

All reinforcing steel shall be deformed round bars. The design and table are based upon net areas of bars as follows: 1/2" = 0.1963 sq. in., 5/8" = 0.3068 sq. in., 3/4" = 0.4412 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 corundum finish and this shall be included in the price bid per Cu. Yd. for Concrete. All exposed edges shall have 3/4" Chamfer.

DESIGN NO.	WATERWAY BARREL OF CULVERT												TWO WINGS AND ONE APRON												TWO CURBS			TOTAL QUANTS.		DESIGN NO.										
	Clear Span	Clear Height	Area of Opening	DIMENSIONS				REINFORCING STEEL				Steel per Lin. Ft.	Concrete per Lin. Ft. Cuyds.	DIMENSIONS				REINFORCING STEEL				Steel Lbs.	Concrete Cuyds.	Steel Lbs.	Concrete Cuyds.															
				T1	T2	V	P	Size and Spacing	Length	Area	Length			Size and Spacing	Length	H	K	M	N	W	X					Y	Z	Bars D	Bars D'		Bars E	Bars F	Bars F'	Bars G	Bars G'	Bars G''				
1	2'-0"	4'-0"	6'-0"	6'-0"	3'-0"	3'-0"	2'-8"	2'-8"	2'-8"	2'-8"	19.34	0.185	2'-0"	1'-8"	3'-2"	5'-6"	2'-9"	9'-9"	4'-9"	2'-3 1/2"	1'-7"	4'-3"	2'-0"	3	2'-0"	3	2'-0"	3	2'-0"	3	77	1.25	6'-11"	3'-5"	26	0.41	0.242	11.94	1078	1
2	2'-0"	6'-0"	6'-0"	6'-0"	3'-0"	4'-0"	1/2"-6"	3'-8"	2	4'-6"	21.66	0.222	2'-0"	1'-8"	3'-2"	5'-6"	2'-9"	10'-11"	4'-9"	3'-5 1/2"	1'-7"	5	3'-2"	3	2'-0"	3	2'-0"	3	2'-0"	3	81	1.34	7'-3"	4'-6"	32	0.52	0.270	13.99	1259	2
3	2'-6"	7'-5"	6'-0"	6'-0"	3'-6"	4'-0"	"	3'-8"	2	4'-6"	23.88	0.241	3'-4"	1'-10"	3'-10"	6'-3"	3'-4"	12'-3"	5'-9"	"	11'-1 1/8"	5	3'-9"	4	3'-0"	3	2'-0"	3	100	1.80	7'-3"	4'-6"	32	0.52	0.304	13.86	1339	3		
4	3'-0"	9'-0"	6'-0"	6'-0"	4'-0"	4'-0"	"	3'-8"	2	4'-6"	26.14	0.259	3'-10"	1'-11"	4'-6"	7'-9"	3'-10"	13'-7"	6'-9"	"	2'-3"	5	4'-4"	5	4'-0"	4	2'-0"	3	137	2.30	7'-3"	4'-6"	32	0.52	0.336	17.76	1520	4		
5	2'-0"	8'-0"	7'-0"	6'-0"	3'-2"	5'-0"	3/4"-8"	4'-0"	4	5'-0"	30.40	0.290	2'-11"	1'-9"	3'-2"	5'-6"	2'-9"	12'-11"	4'-9"	4'-7 3/8"	1'-7"	6	3'-2"	3	2'-0"	3	2'-0"	3	87	1.45	8'-5"	5'-7"	59	0.60	0.299	17.49	1642	5		
6	2'-6"	10'-0"	7'-0"	6'-0"	3'-8"	5'-0"	"	4'-8"	4	5'-0"	31.31	0.308	3'-5"	1'-11"	3'-10"	6'-3"	3'-4"	13'-5"	5'-9"	"	11'-1 1/8"	6	3'-9"	4	3'-0"	3	106	1.93	8'-5"	5'-7"	59	0.60	0.332	19.35	1722	6				
7	3'-0"	12'-0"	7'-0"	6'-0"	4'-2"	5'-0"	"	4'-8"	4	5'-0"	33.58	0.327	3'-11"	2'-0"	4'-6"	7'-9"	3'-10"	14'-9"	6'-9"	"	2'-3"	6	4'-4"	5	4'-0"	4	115	2.45	8'-5"	5'-7"	59	0.60	0.364	21.33	1917	7				
8	4'-0"	16'-0"	7'-0"	6'-0"	5'-2"	5'-1"	"	5'-0"	4	5'-0"	36.45	0.428	4'-11"	2'-3"	5'-9"	10'-1"	5'-0"	17'-4"	8'-3"	"	2'-10"	6	5'-6"	7	5'-0"	5	215	3.64	8'-7"	5'-10"	62	0.62	0.430	28.53	2193	8				
9	2'-0"	10'-0"	8'-0"	6'-0"	3'-4"	6'-0"	5/8"-7"	5'-8"	6	6'-0"	38.72	0.370	3'-0"	1'-10"	3'-2"	5'-6"	2'-9"	13'-3"	4'-9"	5'-9 1/4"	1'-7"	7	3'-2"	3	2'-0"	3	92	1.56	9'-8"	6'-9"	70	0.70	0.327	21.57	2054	9				
10	3'-0"	15'-0"	8'-0"	6'-0"	4'-4"	6'-0"	"	5'-8"	6	6'-0"	41.90	0.407	4'-0"	2'-1"	4'-6"	7'-9"	3'-10"	15'-10"	6'-9"	"	2'-3"	7	4'-4"	5	4'-0"	4	132	2.61	9'-8"	6'-9"	70	0.70	0.393	23.51	2323	10				
11	4'-0"	20'-0"	8'-0"	6'-0"	5'-4"	6'-4"	"	6'-0"	6	6'-0"	44.92	0.511	5'-0"	2'-3"	5'-9"	10'-1"	5'-0"	18'-6"	8'-3"	"	2'-10"	7	5'-6"	7	5'-0"	5	223	3.92	9'-10"	6'-11"	71	0.72	0.458	32.88	2606	11				
12	5'-0"	25'-0"	8'-0"	6'-0"	6'-4"	6'-8"	"	6'-2"	6	6'-0"	49.30	0.638	6'-0"	2'-6"	7'-2"	12'-5"	6'-2"	21'-2"	10'-9"	"	3'-7"	7	6'-9"	9	6'-0"	6	30.9	5.29	10'-0"	7'-11"	72	0.73	0.525	41.83	3382	12				
13	6'-0"	30'-0"	8'-0"	6'-0"	7'-4"	6'-8"	"	6'-4"	6	6'-0"	52.47	0.700	7'-0"	2'-9"	8'-5"	14'-8"	7'-4"	24'-11"	12'-8"	"	4'-3"	7	7'-9"	11	7'-0"	7	40.9	7.41	10'-4"	7'-5"	75	0.76	0.596	49.90	3332	13				
14	2'-0"	12'-0"	9'-0"	6'-0"	3'-6"	7'-0"	3/4"-6"	6'-8"	8	6'-0"	47.61	0.463	3'-11"	1'-11"	3'-2"	5'-6"	2'-9"	14'-8"	4'-9"	6'-1 1/8"	1'-7"	8	3'-2"	3	2'-0"	3	97	1.67	10'-0"	7'-11"	80	0.79	0.356	26.23	2480	14				
15	3'-0"	18'-0"	9'-0"	6'-0"	4'-6"	7'-4"	"	7'-0"	8	6'-0"	52.19	0.556	4'-11"	2'-2"	4'-6"	7'-9"	3'-10"	17'-0"	6'-9"	"	2'-3"	8	4'-4"	5	4'-0"	4	160	2.73	11'-1"	8'-1"	81	0.81	0.421	32.79	2818	15				
16	4'-0"	24'-0"	9'-0"	6'-0"	5'-6"	7'-4"	"	7'-0"	8	6'-0"	54.01	0.605	5'-1"	2'-4"	5'-9"	10'-1"	5'-0"	19'-8"	8'-3"	"	2'-10"	8	5'-6"	7	5'-0"	5	235	4.02	11'-1"	8'-1"	81	0.81	0.487	37.77	3052	16				
17	5'-0"	30'-0"	9'-0"	6'-0"	6'-8"	7'-8"	"	7'-4"	8	6'-0"	58.59	0.734	6'-1"	2'-7"	7'-2"	12'-5"	6'-2"	22'-4"	10'-9"	"	3'-7"	8	6'-8"	9	6'-0"	6	321	5.54	11'-3"	8'-3"	83	0.83	0.553	46.92	3445	17				
18	6'-0"	36'-0"	9'-0"	6'-0"	7'-8"	7'-8"	"	7'-4"	8	6'-0"	61.76	0.796	7'-1"	2'-10"	8'-5"	14'-8"	7'-4"	25'-3"	12'-8"	"	4'-3"	8	7'-9"	11	7'-0"	7	423	8.02	11'-7"	8'-7"	86	0.85	0.629	55.11	3804	18				
19	3'-0"	24'-0"	12'-0"	8'-0"	5'-0"	9'-4"	3/4"-6"	9'-0"	12	8'-0"	78.46	0.839	4'-11"	2'-5"	4'-6"	7'-9"	3'-10"	19'-4"	6'-9"	9'-2 3/8"	2'-3"	11	4'-4"	4	5'-0"	4	175	3.07	13'-7"	10'-5"	116	1.00	0.479	46.85	4138	19				
20	4'-0"	32'-0"	12'-0"	8'-0"	6'-0"	9'-4"	"	9'-0"	12	8'-0"	80.27	0.839	5'-4"	2'-8"	5'-9"	10'-1"	5'-0"	22'-0"	8'-3"	"	2'-10"	11	5'-6"	6	5'-0"	5	254	4.48	13'-7"	10'-5"	116	1.00	0.544	52.11	4380	20				
21	5'-0"	40'-0"	12'-0"	8'-0"	7'-0"	9'-8"	"	9'-4"	12	8'-0"	124.54	1.477	6'-0"	3'-7"	6'-9"	11'-0"	6'-6"	32'-6"	12'-8"	"	4'-10"	13	8'-1"	13	8'-0"	9	346	6.10	14'-11"	10'-11"	128	1.02	0.610	61.79	4797	21				
22	6'-0"	48'-0"	12'-0"	8'-0"	8'-0"	9'-8"	"	9'-4"	12	8'-0"	128.93	1.603	6'-4"	3'-10"	7'-2"	12'-5"	6'-2"	34'-8"	12'-8"	"	5'-7"	13	10'-1"	15	10'-0"	10	453	8.01	14'-11"	10'-11"	152	1.04	0.681	70.19	5165	22				
23	7'-0"	56'-0"	12'-0"	8'-0"	9'-0"	9'-8"	"	9'-4"	12	8'-0"	133.32	1.741	7'-0"	4'-0"	8'-5"	12'-8"	7'-4"	37'-1"	13'-8"	"	6'-3"	13	11'-3"	17	11'-0"	11	503	9.47	16'-7"	13'-3"	181	1.23	0.804	84.84	7551	23				
24	8'-0"	64'-0"	12'-0"	8'-0"	10'-0"	9'-4"	"	9'-6"	12	8'-0"	142.72	1.875	8'-4"	3'-11"	9'-9"	13'-1"	8'-6"	40'-6"	14'-8"	"	7'-11"	14	12'-11"	18	12'-0"	12	573	11.41	16'-7"	13'-3"	181	1.23	0.870	106.16	8102	24				
25	6'-0"	60'-0"	12'-0"	8'-0"	8'-5"	11'-8"	3/4"-5"	11'-4"	22	8'-0"	122.72	1.415	7'-0"	3'-7"	8'-5"	13'-1"	8'-6"	39'-0"	14'-8"	11'-6 1/2"	4'-3"	13	7'-9"	11	7'-0"	7	439	8'-4"	13'-6"	13'-5"	163	1.25	1.001	128.22	9164	25				
26	7'-0"	70'-0"	12'-0"	8'-0"	9'-5"	11'-8"	"	11'-4"	22	8'-0"	124.54	1.477	8'-0"	3'-7"	8'-5"	13'-1"	8'-6"	40'-6"	14'-8"	11'-6 1/2"	4'-3"	13	8'-1"	13	8'-0"	9	39	7'-5"	801	11.87	16'-7"	13'-3"	181	1.23	0.804	94.84	7551	26		
27	8'-0"	80'-0"	12'-0"	8'-0"	10'-5"	11'-0"	"	11'-6"	22	8'-0"	128.93	1.603	8'-4"	3'-10"	9'-9"	13'-1"	8'-6"	42'-8"	14'-8"	11'-6 1/2"	5'-7"	13	10'-1"	15	10'-0"	10	441	7'-10"	973	14.57	16'-8"	13'-4"	182	1.24	0.870	106.16	8102	27		
28	9'-0"	90'-0"	12'-0"	8'-0"	11'-5"	11'-0"	"	11'-8"	22	8'-0"	133.32	1.741	9'-0"	4'-0"	10'-6"	13'-1"	8'-6"	45'-0"	14'-8"	11'-6 1/2"	6'-3"	13	11'-3"	17	11'-0"	11	441	7'-10"	1160	17.44	16'-9"	13'-5"	183	1.25	0.937	118.42	8680	28		
29	10'-0"	100'-0"	12'-0"	8'-0"	12'-5"	12'-0"	"	11'-8"	22	8'-0"	133.32	1.815	11'-6"	4'-3"	13'-9"	13'-1"	11'-11"	40'-6"	14'-8"	11'-6 1/2"	6'-10"	13	12'-5"	19	12'-0"	12	491	8'-4"	1360	20.57	16'-9"	13'-5"	183	1.25	1.001	128.22	9164	29		

**DESIGN DATA**  
 Dead Load 1000 Lbs.  
 Live Load None  
 Impact None

**OKLAHOMA STATE STANDARD CONCRETE BOX CULVERTS SKEWED 60° RT FWD. SPANS 2 TO 10 FT FOR FILLS 3FT. TO 10 FT**

Traced By: H.E. Fertig June-37  
 Drawn By: H.B. Shelton - Jan. 1931  
 Checked By: G. B. Hill - March, 51