Adopted from and in conformance with the State of Colorado Department of Highways with Revisions by the City of Colorado Springs Engineering Division

*Depth of toe wall to be increased if required by scour potential. Indicate dimension on plan.

STANDARD M-601-1

(JANUARY, 1982)

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO			

REVISIONS

f-BARS (Cont)

SPAN S	HEADWALL SKEW ANGLE 90° to 75°	74° to 60°	59° to 45°
5' or 6'	#4	#4	#5
7' or 8'	#4	#5	#6
9' or 10'	#5	#6	#7
11' or 12'	#6	#7	#8
13' or 14'	#7	#8	#9

Six f-bars required for each headwall.

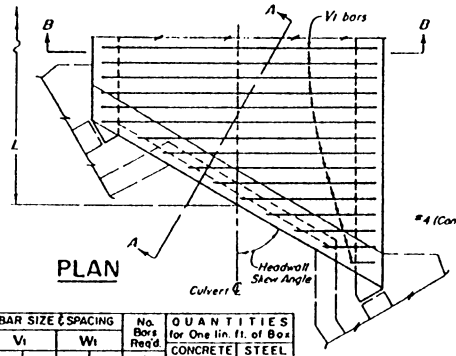
HEADWALL & TOEWALL QUANTITIES

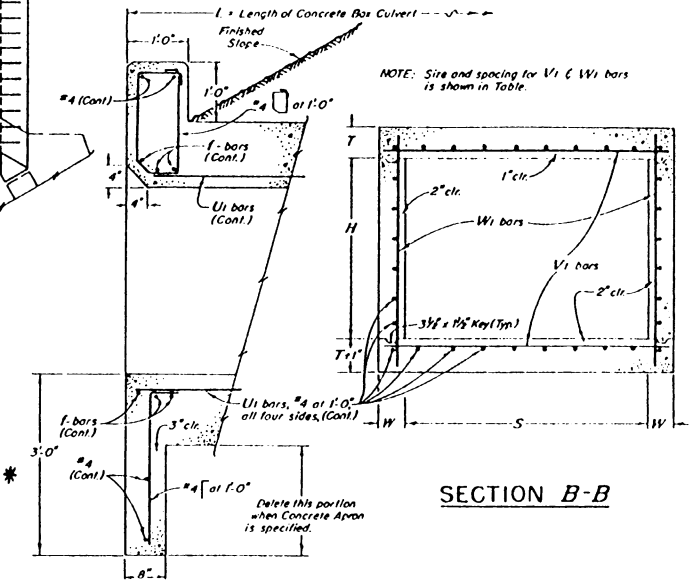
f-BAR SIZE #	APPROX. QUANTS FOR ONE HEADWALL & TOEWALL LBS. PER LINEAR FT.
4	13
5	15
6	18
7	21
8	25
9	29

Concrete = 0.083 cu yds/lin. ft.

* Deduct 0.049 cu yd. Concrete and 3.4 lb. Reinf. Steel from these quantities when Concrete Apron is specified.

Includes all Headwall and Toewall reinforcing





SECTION B-B

SECTION A-A

DIMENSIONS & QUANTITIES

HEIGHT OF FILL ALLOWED ft.	TYPE	SPAN S	HEIGHT H	SLAB T	WALL W	BAR SIZE & SPACING V1 Size	V1 Spa.	W1 Size	W1 Spa.	No. Bars Req'd U1	QUANTITIES for One lin. ft. of Box CONCRETE cu. yds.	STEEL lbs.
16	5A	5'	3'	8"	8"	#6	8"	#4	8"	16	0.481	45.3
			4'							18	0.530	48.7
			5'							20	0.579	52.0
20	5B	5'	3'	8½"	8"	#6	8"	#4	8"	16	0.500	45.5
			4'							18	0.549	48.8
			5'							20	0.598	52.2
14	6A	6'	4'	8½"	8"	#6	8"	#4	8"	20	0.605	54.7
			5'							22	0.654	58.1
			6'							24	0.704	61.4
			7'							26	0.755	64.9
20	6B	6'	4'	10"	8"	#7	8"	#5	8"	20	0.671	72.4
			5'							22	0.730	76.9
			6'							24	0.771	81.4
			7'							26	0.820	83.9
12	7A	7'	4'	9"	9"	#6	7"	#4	7"	22	0.720	68.2
			5'							24	0.778	71.9
			6'							26	0.832	75.5
			7'							28	0.887	79.2
15	7B	7'	4'	10"	9"	#7	8"	#5	8"	22	0.772	81.0
			5'							24	0.827	85.5
			6'							26	0.883	90.0
			7'							28	0.938	94.5
20	7C	7'	4'	11"	9"	#7	7"	#5	7"	22	0.826	91.1
			5'							24	0.881	96.0
			6'							26	0.937	101.0
			7'							28	0.992	106.0
10	8A	8'	4'	9½"	10"	#6	7"	#4	7"	24	0.844	75.8
			5'							26	0.905	79.5
			6'							28	0.966	83.2
			7'							30	1.027	86.8
			8'							32	1.089	90.5
16	8B	8'	4'	11½"	10"	#7	7"	#5	7"	24	0.963	100.9
			5'							26	1.025	103.9
			6'							28	1.086	110.8
			7'							30	1.148	113.8
			8'							32	1.210	120.8
20	8C	8'	4'	12½"	10"	#7	6"	#5	6"	24	1.023	115.8
			5'							26	1.084	121.4
			6'							28	1.146	126.9
			7'							30	1.208	132.5
			8'							32	1.270	138.1
7	9A	9'	5'	10"	11"	#7	8"	#5	8"	28	1.040	102.7
			6'							30	1.108	107.1
			7'							32	1.176	111.6
			8'							34	1.244	116.1
			9'							36	1.311	120.7
14	9B	9'	5'	12"	11"	#7	6"	#5	6"	28	1.174	131.9
			6'							30	1.242	137.5
			7'							32	1.310	143.1
			8'							34	1.378	148.6
			9'							36	1.445	154.2
20	9C	9'	5'	14"	11"	#8	7"	#6	7"	28	1.309	150.4
			6'							30	1.377	156.5
			7'							32	1.444	162.4
			8'							34	1.513	170.0
			9'							36	1.581	176.6
5	10A	10'	6'	10½"	12"	#7	8"	#4	8"	32	1.260	107.7
			7'							34	1.334	111.0
			8'							36	1.408	114.4
			9'							38	1.483	117.8
			10'							40	1.558	121.1
10	10B	10'	6'	12"	12"	#7	7"	#5	7"	32	1.369	130.4
			7'							34	1.443	135.4
			8'							36	1.517	140.4
			9'							38	1.591	145.3
			10'							40	1.665	150.3
16	10C	10'	6'	14"	12"	#8	8"	#6	8"	32	1.518	150.7
			7'							34	1.593	156.6
			8'							36	1.666	162.5
			9'							38	1.741	168.4
			10'							40	1.815	174.3
5	11A	11'	6'	11"	12"	#7	7"	#4	7"	34	1.367	128.6
			7'							36	1.441	134.6
			8'							38	1.515	135.9
			9'							40	1.589	139.6
			10'							42	1.664	143.1
9	11B	11'	6'	12½"	12"	#8	8"	#5	8"	34	1.490	148.3
			7'							36	1.564	152.8
			8'							38	1.638	157.3
			9'							40	1.712	161.8
			10'							42	1.783	166.4
13	11C	11'	6'	14"	12"	#7	6"	#5	6"	34	1.608	159.5
			7'							36	1.682	165.1
			8'							38	1.756	170.7
			9'							40	1.830	176.2
			10'							42	1.904	181.8
5	12A	12'	6'	12"	12"	#7	7"	#4	7"	36	1.595	137.4
			7'							38	1.598	141.0
			8'							40	1.673	144.7
			9'							42	1.747	148.4
			10'							44	1.821	152.0
10	12B	12'	6'	14"	12"	#8	7"	#5	7"	36	1.697	177.7
			7'							38	1.772	182.7
			8'							40	1.846	187.7
			9'							42	1.920	192.6
			10'							44	1.994	197.6
4	13A	13'	6'	12½"	12"	#7	7"	#4	7"	38	1.643	146.0
			7'							40	1.720	149.7
			8'							42	1.794	153.3
			9'							44	1.868	157.0
			10'							48	1.942	160.7
8	13B	13'	6'	14"	12"	#8	7"	#5	7"	38	1.767	188.4
			7'							40	1.841	193.3
			8'							42	1.935	198.3
			9'							44	2.009	203.3
			10'							46	2.083	208.2
4	14A	14'	6'	13½"	12"	#8	8"	#5	8"	40	1.827	177.2
			7'							42	1.901	181.7
			8'							44	1.975	186.2
			9'							46	2.049	190.7
			10'							48	2.123	195.2
8	14B	14'	6'	15"	12"	#8	7"	#5	7"	40	1.973	199.5
			7'							42	2.049	204.5
			8'							44	2.123	209.4
			9'							46	2.198	214.4
			10'							48	2.270	219.4

GENERAL NOTES

All work shall be done in accordance with the Standard Specifications applicable to the project.

All concrete shall be Class "A" (Box Culvert).

All construction joints shall be thoroughly cleaned before fresh concrete is poured.

Construction joints shall be spaced at 35 foot max. centers and shall extend through the entire cross section of the Box Culvert.

Splice quantities for longitudinal bars are not included.

DESIGN DATA: AASHTO, 1973,
Unit Stresses: f_s = 20,000 psi
f_c = 1,800 psi
n = 10

DESIGN CRITERIA:
Culvert in trench on unyielding subgrade, or culvert unbranched on yielding foundation. For culverts on piles or rock foundations, special design will be required.

LOADING DATA:
Live Load = AASHTO, H S 20-44
Dead Load = Earth Load = 84 lbs/cu ft
Equivalent Fluid Pressure = 30 lbs/cu ft.

The minimum splice length for common bar sizes shall be:

BAR SIZE	#4	#5	#6	#7	#8	#9
SPLICE LENGTH	1'-0"	1'-2"	1'-6"	2'-3"	3'-0"	3'-10"

All exposed corners on concrete shall be chamfered ¾"

CITY OF COLORADO SPRINGS

SINGLE CONCRETE BOX CULVERT

APPROVED BY Gary R. Hayes
CITY ENGINEER

SCALE	DATE	DRAWN	SHEET
NO SCALE	JAN. 90	PL B.	D-33

Adopted from and in conformance with the State of Colorado Department of Highways with Revisions by the City of Colorado Springs Engineering Division

*Depth of toe wall to be increased if required by scour potential. Indicate dimension on plan.

**Upstream vertical wall edge shall have a full height 5 X 5 X 3/8" angle attached with 6 inch nelson studs. hot dip galvanized.

STANDARD M-601-2

(JANUARY, 1982)

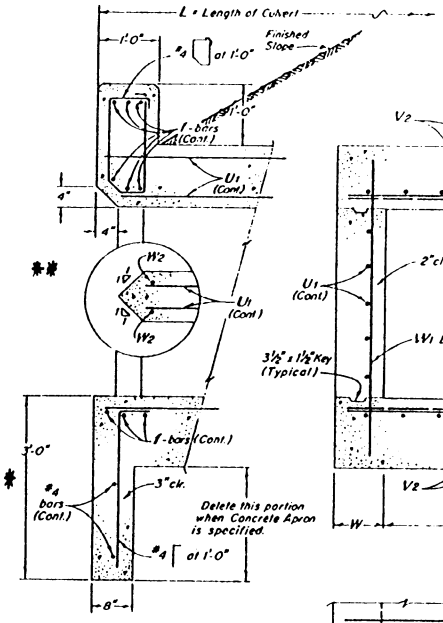
FEDERAL AID PROJ. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
V3	COLORADO			

REVISIONS

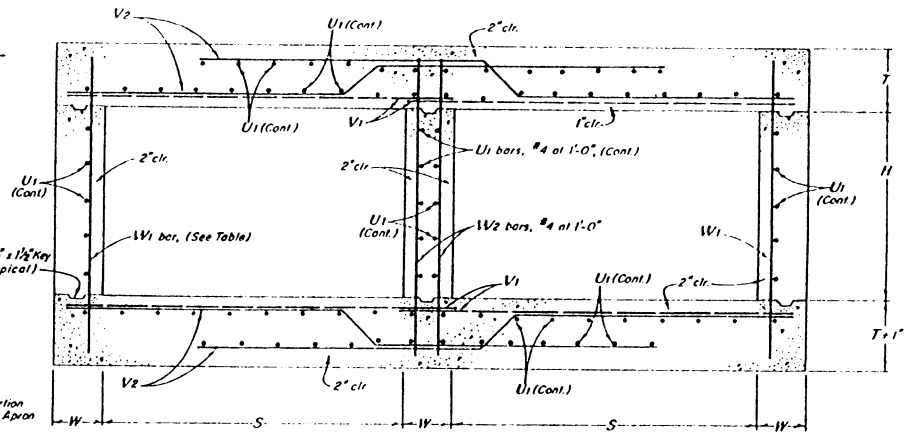
DIMENSIONS & QUANTITIES

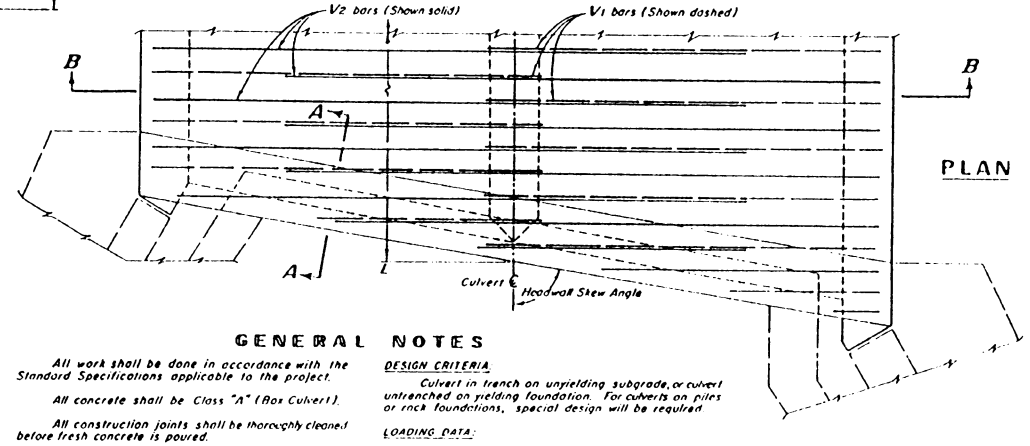
HEIGHT OF FILL ALLOWED	TYPE	SPAN S	HEIGHT H	SLAB T	WALL W	BAR SIZE & SPACING V1 / V2 Span	W1 Size	W1 Spc.	No BARS Req'd U1	QUANTITIES for One Linear Ft of Box CONCRETE Cu Yds	STEEL Lbs.
10'	6-6-A	6'	3'	8½"	8"	#4 / #5 5½"	#4	12"	48	1.000	112.3
			4'					12"	52	1.073	117.7
			5'					12"	56	1.148	123.1
			6'					12"	60	1.220	128.5
15'	6-6-B	6'	3'	9½"	8"	#4 / #5 5"	#4	13"	48	1.087	120.3
			4'					12"	52	1.161	125.7
			5'					12"	56	1.235	131.1
			6'					8"	60	1.309	141.4
20'	6-6-C	6'	3'	10½"	8"	#4 / #5 4½"	#4	12"	48	1.173	130.0
			4'					12"	52	1.247	135.4
			5'					10"	56	1.321	142.5
			6'					7"	60	1.395	152.4
10'	8-8-A	8'	3'	10"	10"	#5 / #6 6"	#4	12"	60	1.477	174.4
			4'					12"	64	1.569	179.8
			5'					12"	68	1.662	185.2
			6'					12"	72	1.755	190.6
15'	8-8-B	8'	3'	11"	10"	#5 / #6 5½"	#4	12"	60	1.592	188.6
			4'					12"	64	1.684	192.0
			5'					12"	68	1.777	197.4
			6'					8"	72	1.869	207.9
20'	8-8-C	8'	3'	12½"	10"	#5 / #6 5"	#4	12"	60	1.763	202.0
			4'					12"	64	1.856	207.4
			5'					10"	68	1.948	214.6
			6'					7"	72	2.041	225.7
5'	10-10-A	10'	4'	10"	12"	#5 / #7 7"	#5	15"	78	1.935	228.3
			6'					15"	86	2.157	239.8
			8'					12"	94	2.380	253.2
			10'					9"	102	2.602	275.5
10'	10-10-B	10'	4'	12"	12"	#5 / #7 7"	#5	15"	78	2.220	231.0
			6'					15"	86	2.442	242.5
			8'					12"	94	2.664	258.0
			10'					8"	102	2.886	282.6
15'	10-10-C	10'	4'	14"	12"	#5 / #7 6"	#5	15"	78	2.503	260.8
			6'					12"	86	2.725	275.6
			8'					9"	94	2.947	295.0
			10'					6"	102	3.170	325.5
5'	12-12-A	12'	6'	12"	12"	#5 / #7 7"	#5	15"	98	2.751	278.9
			8'					12"	106	2.973	294.5
			10'					9"	114	3.195	315.0
10'	12-12-B	12'	6'	14"	12"	#5 / #7 6"	#5	15"	98	3.083	313.5
			8'					12"	106	3.305	329.2
			10'					8"	114	3.528	354.1
15'	12-12-C	12'	6'	16"	12"	#5 / #7 5"	#5	12"	98	3.416	365.1
			8'					9"	106	3.638	384.7
			10'					6"	114	3.860	413.7
5'	14-14-A	14'	6'	15"	12"	#5 / #7 6"	#5	15"	110	3.633	396.2
			8'					12"	118	3.855	372.0
			10'					9"	126	4.077	392.9
10'	14-14-B	14'	6'	16"	12"	#5 / #7 5"	#5	15"	110	3.824	409.4
			8'					12"	118	4.046	425.2
			10'					8"	126	4.269	450.5

SECTION A-A



SECTION B-B

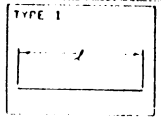




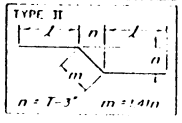
BAR LIST

MARK	SIZE	NUMBER REQ'D	TYPE	ℓ	TOTAL LENGTH
V1	See Table	2ℓ/Spa. +2	I	S+1.5W+4"	ℓ
V2			II	0.75S+4"	2ℓ+m
W1			I	11+2T-4"	ℓ
W2	#4	2ℓ+2	I	11+2T-4"	ℓ
U1	#4	See Table	I	ℓ	ℓ

TYPE I



TYPE II



f - BARS (Cont.)

SPAN S	HEADWALL SKEW 90° to 75°	74° to 60°	59° to 45°
6'	#4	#4	#5
8'	#4	#5	#6
10'	#5	#6	#7
12'	#6	#7	#8
14'	#7	#8	#9

Nine f-bars required for each headwall.

HEADWALL & TOEWALL QUANTITIES

f-BAR SIZE #	APPROX. QUANTS. FOR ONE Headwall & Toewall lbs. per lin. ft.	
4	13	*
5	17	
6	21	
7	26	
8	31	
9	38	
Concrete = .0085 cu yd/l.f.		

* Includes all Headwall and Toewall reinforcing

▲ Deduct 0.049 cu yd Concrete and 3.4 lb. Reinforcing Steel from these quantities when Concrete Apron is specified.

GENERAL NOTES

All work shall be done in accordance with the Standard Specifications applicable to the project.

All concrete shall be Class "A" (Box Culvert).

All construction joints shall be thoroughly cleaned before fresh concrete is poured.

Construction joints shall be spaced at 35 foot max. centers and shall extend through the entire cross section of the Box Culvert.

Splice quantities for longitudinal bars are not included.

DESIGN DATA: AASHTO, 1973,
Unit Stresses: f_s = 20,000 psi
f_c = 1,200 psi
n = 10

DESIGN CRITERIA

Culvert in trench on unyielding subgrade, or culvert untrenched on yielding foundation. For culverts on piles or rock foundations, special design will be required.

LOADING DATA:

Live Load = AASHTO, HS 20-44

Dead Load = Earth Load = 84 lbs./cu ft.
Equiv. Fluid Pressure = 30 lbs./cu ft.

The minimum splice length for common bar sizes shall be:

BAR SIZE	#4	#5	#6	#7	#8	#9
SPLICE LENGTH	1'-0"	1'-2"	1'-8"	2'-3"	3'-0"	3'-10"

All exposed corners on concrete shall be chamfered ¾".

CITY OF COLORADO SPRINGS

DOUBLE CONCRETE BOX CULVERT

APPROVED BY Gary R. Hayes
CITY ENGINEER

SCALE	DATE	DRAWN	SHEET
NO SCALE	JAN. 90	P.L.B.	D-34

Adopted from and in conformance with the State of Colorado Department of Highways with Revisions by the City of Colorado Springs Engineering Division

*Depth of toes wall to be increased if required by scour potential. Indicate dimension on plan.

**Upstream vertical wall edge shall have a full height 5 X 5 X 3/8" angle attached with 6 inch nelson studs. hot dip galvanized.

STANDARD M-601-3

(JANUARY, 1982)

REVISIONS

DIMENSIONS & QUANTITIES

HEIGHT OF FILL ALLOWED	TYPE	CLEAR SPAN S1	CLEAR SPAN S2	HEIGHT H	SLAB T	SIZE OF BARS V1 or V3	SPACING OF BARS V	SPACING OF BARS W1	NO BARS EACH L1	QUANTITIES for One Lin. Ft. of Box CONCRETE Cu yds.	QUANTITIES for One Lin. Ft. of Box STEEL Lbs.
5'	9-12-A	9'	12'	6'	10"	#7	7½"	15"	136	2.948	408.9
				8'				13"	148	3.207	425.6
				10'				11"	160	3.467	449.1
10'	9-12-B	9'	12'	6'	11"	#4	7"	15"	136	3.156	348.4
				8'				12"	148	3.415	369.0
				10'				6"	160	3.447	398.6
15'	9-12-C	9'	12'	6'	12"	#4	5½"	15"	136	3.363	412.5
				8'				9"	148	3.622	439.9
				10'				6"	160	3.881	475.1
5'	11-14-A	11'	14'	6'	11"	#6	6"	15"	156	3.581	513.9
				8'				15"	168	3.841	530.6
				10'				11"	180	4.100	554.3
10'	11-14-B	11'	14'	6'	12½"	#4	5½"	15"	156	3.948	477.1
				8'				12"	168	4.207	497.8
				10'				8"	180	4.467	527.6
15'	11-14-C	11'	14'	6'	14"	#4	5"	15"	156	4.315	515.6
				8'				9"	168	4.574	543.5
				10'				6"	180	4.833	579.1
5'	13-16-A	13'	16'	6'	12½"	#6	5½"	15"	176	4.430	626.6
				8'				15"	188	4.689	643.3
				10'				10"	200	4.948	669.8
10'	13-16-B	13'	16'	6'	14"	#4	5"	15"	176	4.652	583.9
				8'				12"	188	5.111	604.8
				10'				8"	200	5.370	634.7
15'	13-16-C	13'	16'	6'	15½"	#4	4"	15"	176	5.270	697.3
				8'				9"	188	5.530	725.4
				10'				6"	200	5.789	761.3

BAR LIST

MARK	SIZE	NUMBER REQUIRED	TYPE	L	TOTAL LENGTH
V1	See Table	24 L / Spa. + 4	I	S1 + 1'-9"	L
V2	#7	24 L / Spa. + 4	II	0.61 S2	2L + m
V3	See Table	12 L / Spa. + 2	I	S2 + 1'-10"	L
V4	#7	12 L / Spa. + 2	III	0.726 S1	3L + 2m
W1	#5	24 L / Spa. + 2	I	H + 2T - 4"	L
W2	#4	4L + 4	I	H + 2T - 4"	L
U1	#4	See Table	I	L	L

TYPE I

TYPE II

n = T - 3"
m = 1.41 n

TYPE III

n = T - 3"
m = 1.41 n

HEADWALL & TOEWALL QUANTITIES

f - BAR SIZE #	APPROX. QUANTS. FOR ONE HEADWALL & TOEWALL LBS. PER LIN. FT.
5	17
6	21
7	26
8	31
9	38
Concrete = 0.085 cuyds/lin ft.	

* Includes all Headwall and Toewall reinforcing.

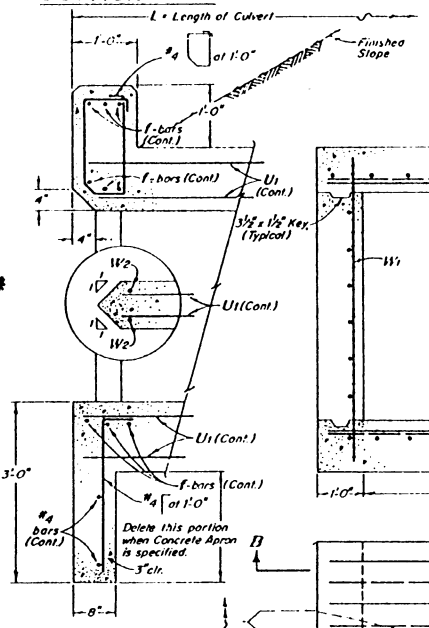
▲ Deduct 0.049 cu yd. Concrete and 3.4 lb. Reinf. Steel from these quantities when Concrete Apron is specified.

f - BARS (Continuous)

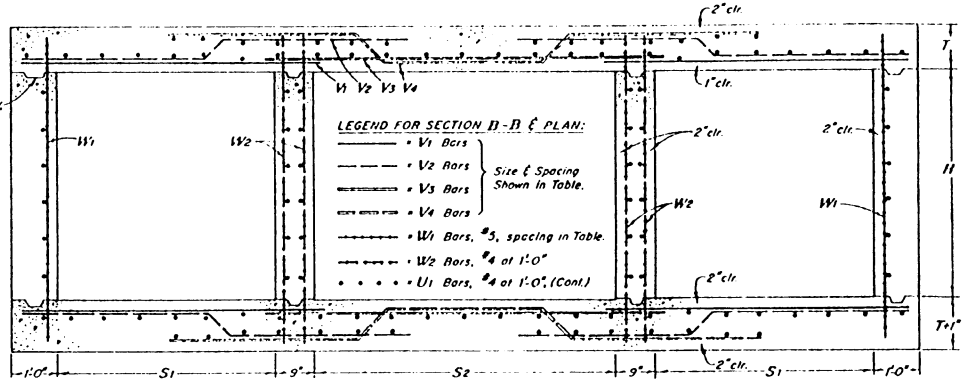
SPAN S2	HEADWALL SKEW ANGLE 90° to 75°	74° to 60°	59° to 45°
12'	#5	#6	#7
14'	#6	#7	#8
16'	#7	#8	#9

Nine f - bars required for each headwall.

SECTION A-A



SECTION B-B

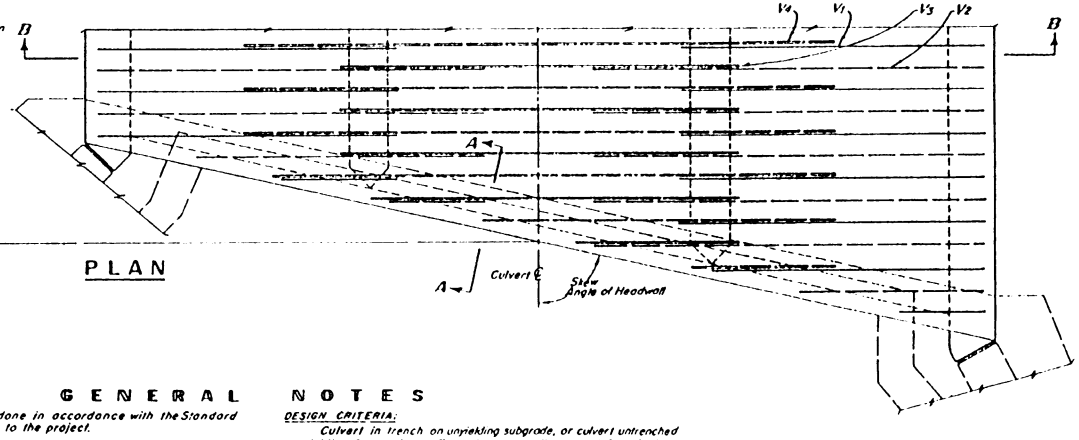


LEGEND FOR SECTION B-B & PLAN:
- V1 Bars
- V2 Bars
- V3 Bars
- V4 Bars

Size & Spacing Shown in Table.

- W1 Bars, #5, spacing in Table.
- W2 Bars, #4 at 1'-0"
- U1 Bars, #4 at 1'-0", (Cont.)

PLAN



GENERAL NOTES

All work shall be done in accordance with the Standard Specifications applicable to the project.

All concrete shall be Class "A" (Box Culvert).

All construction joints shall be thoroughly cleaned before fresh concrete is poured.

Construction joints shall be spaced at 35 foot max. centers and shall extend through the entire cross section of the Box Culvert

Splice quantities for longitudinal bars are not included.

DESIGN DATA: AASHTO, 1973,
Unit Stresses: f_s = 20,000 psi
f_c = 1,200 psi
n = 10

DESIGN CRITERIA:
Culvert in trench on unyielding subgrade, or culvert untrenched on yielding foundation. For culverts on piles or rock foundations, special design will be required.

LOADING DATA:
Live Load = AASHTO, HS 20-44
Dead Load = Earth Load = 84 lbs/cu ft.
Equiv. Fluid Pressure = 30 lbs/cu ft.

The minimum splice length for common bar sizes shall be.

BAR SIZE	#4	#5	#6	#7	#8	#9
SPLICE LENGTH	1'-0"	1'-2"	1'-8"	2'-3"	3'-0"	3'-10"

All exposed corners on concrete shall be chamfered ¾".

CITY OF COLORADO SPRINGS

TRIPLE CONCRETE BOX CULVERT

APPROVED BY Hayes K. Haynes
CITY ENGINEER

SCALE:	DATE:	DRAWN:	SHEET
NO SCALE	JAN. 90	P.L.B.	D - 35

Adopted from and in conformance with the State of Colorado Department of Highways with Revisions by the City of Colorado Springs Engineering Division

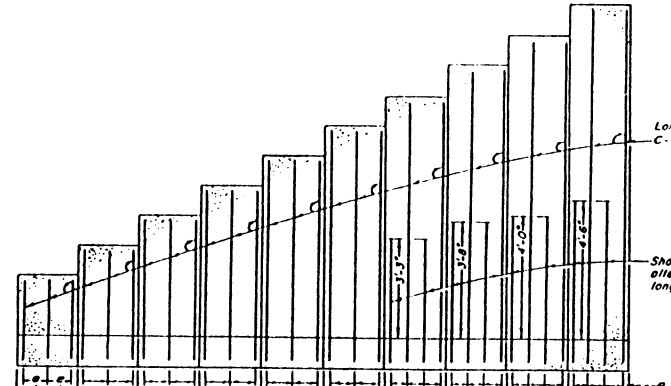
*Depth of toe wall to be increased if required by scour potential. Indicate dimension on plan.

STANDARD M-601-20

(JANUARY, 1982)

FEDERAL AID PROJECT NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
STR	COLORADO			

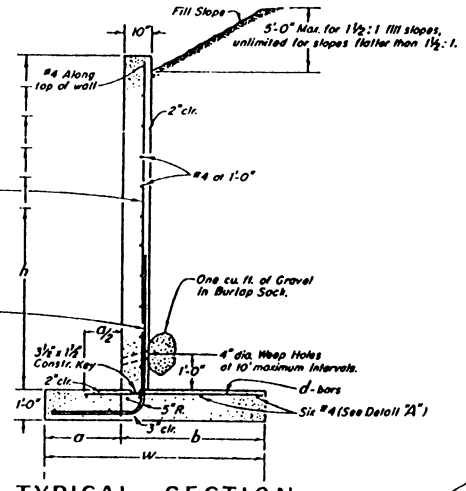
REVISIONS



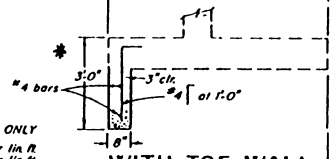
e =	1'-6"	1'-6"	1'-6"	1'-6"	1'-0"	0'-8½"	1'-0"	0'-9½"	0'-7"	0'-5½" clrs.
h =	2'	3'	4'	5'	6'	7'	8'	9'	10'	11'
a =	1'-0"	1'-2"	1'-4"	1'-6"	1'-8"	1'-10"	2'-0"	2'-2"	2'-4"	2'-6"
b =	1'-8"	2'-0"	2'-4"	2'-8"	3'-0"	3'-4"	3'-8"	4'-0"	4'-4"	4'-8"
w =	2'-8"	3'-2"	3'-8"	4'-2"	4'-8"	5'-2"	5'-8"	6'-2"	6'-8"	7'-2"
C ℄ d bars	#4 at 1'-6"	#4 at 1'-6"	#4 at 1'-6"	#4 at 1'-6"	#4 at 1'-0"	#4 at 8½"	#6 at 1'-0"	#6 at 9½"	#6 at 7"	#6 at 5½" clrs
*Conc. cu yd/l.f.	0.161	0.210	0.259	0.308	0.358	0.407	0.457	0.506	0.556	0.604
*Reinf. lb/l.f.	8.0	9.3	10.7	12.1	16.2	21.7	29.0	37.0	51.0	67.3

* Does not include Toe Wall quantities.

DESIGN TABLE



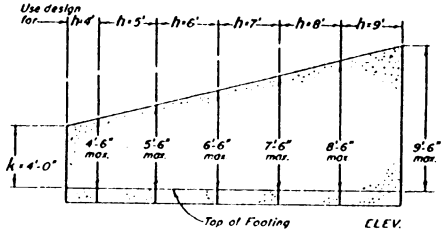
TYPICAL SECTION

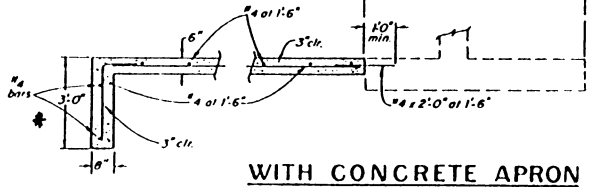


QUANTITIES FOR TOE WALL ONLY

Concrete 0.049 cu.yd. per lin. ft.
Reinforcement 3.4 lb. per lin. ft.

WITH TOE WALL

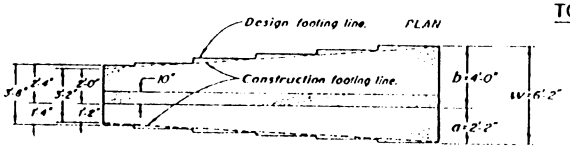




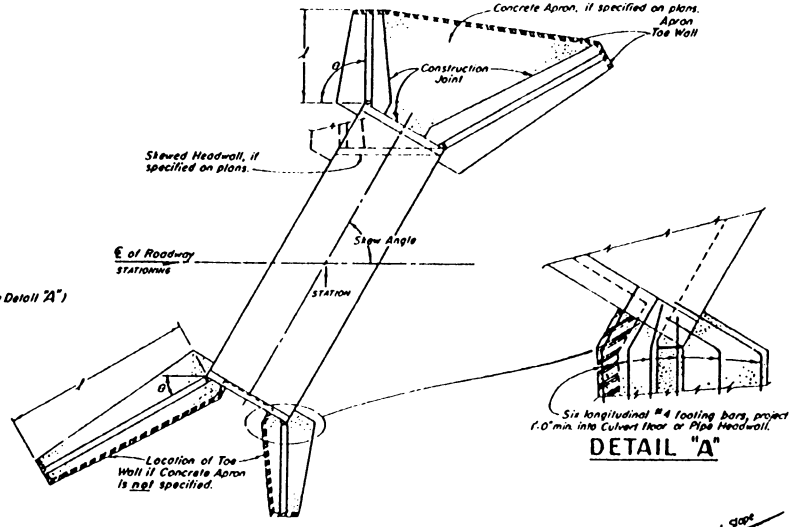
WITH CONCRETE APRON

APRON TOE WALL

Re-bar: .89 lb/sq. ft.



SIGN EXAMPLE



DETAIL "A"

TYPICAL CULVERT LAYOUT

GENERAL NOTES

All work shall be done in accordance with the Standard Specifications applicable to the project.

All exposed corners on concrete shall be chamfered ¾".

Wingwall footings and floor of Box Culvert shall be placed monolithically.

Expansion Joint Material shall conform to AASHTO M-213 and payment therefor shall be included in the price for Concrete, (Box Culvert) or (Wall).

Dimensions "H," "Ba," "Rise," "k," "J," "m" and angles for wingwalls shall be as shown on the plans.

The minimum splice length for common bar sizes shall be:

BAR SIZE	#4	#6
SPLICE LENGTH	1'-0"	1'-8"

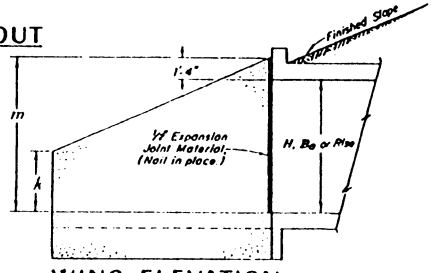
DESIGN DATA:

Unit Stresses: f_s = 20,000 psi
f_c = 1,200 psi
n = 10

Equivalent Fluid Pressure = 30 lbs/cu.ft.
Maximum Toe Pressure = 1 Ton/sq. ft.

All construction joints shall be thoroughly cleaned before fresh concrete is poured.

Wingwall Concrete shall be:
Concrete, Class A (Box Culvert) for CBC's
Concrete, Class A, B or D (Wall) for Pipes



WING ELEVATION

m = H, Ba or Rise + (1':4') unless otherwise shown on Plans

CITY OF COLORADO SPRINGS

WINGWALLS FOR PIPE OR BOX CULVERT

APPROVED BY Gary R. Haynes
CITY ENGINEER

SCALE:	DATE:	DRAWN:	SHEET
NO SCALE	JAN. 90	P.L.B.	D-36