

End Details

Estimate of Quantities - Flume Basin

Bill of Reinforcing Steel			8' x 4'		8' x 5'		8' x 6'		8' x 7'		8' x 8'		8' x 9'		8' x 10'															
Bar	Location	Shape	Size	No.	Length	Weight	Size	No.	Length	Weight	Size	No.	Length	Weight	Size	No.	Length	Weight												
5a1	Walls - Vert. - F.F.		5	30	2'-6" x 6'-0"	133	5	32	3'-3" x 7'-0"	171	5	36	4'-1" x 8'-0"	214	5	36	5'-7" x 10'-1"	310	5	40	6'-4" x 11'-1"	363	5	42	7'-2" x 12'-1"	422				
5b1	Walls - Longit. - F.F. & B.F.		5	12	16'-5"	205	5	16	17'-6"	292	5	16	18'-7"	310	5	20	19'-7"	409	5	24	20'-8"	517	5	28	21'-9"	635	5	28	22'-9"	664
5b2	Walls - Longit. - F.F. & B.F.		5	4	15'-1"	63	5	4	16'-1"	67	5	8	17'-5"	145	5	8	18'-5"	154	5	8	19'-5"	162	5	8	20'-6"	171	5	12	21'-6"	269
c1	Walls - Vert. - B.F.		5	29	20'-11" x 21'-2"	636	5	22	22'-11" x 23'-3"	530	5	16	25'-1" x 25'-4"	421	5	10	27'-1" x 27'-4"	284	5	4	29'-3" x 29'-6"	123	--	--	--	--	--	--	--	--
c2	Walls - Vert. - B.F.		--	--	--	--	5	9	15'-3" x 17'-3"	153	5	17	15'-3" x 19'-3"	306	5	25	15'-3" x 21'-3"	476	5	33	15'-5" x 23'-5"	668	5	39	15'-5" x 24'-11"	820	6	41	16'-2" x 26'-3"	1309
c3	Walls - Vert. - B.F.		--	--	--	--	5	34	5'-0" x 6'-0"	103	5	34	5'-0" x 7'-0"	213	5	50	5'-1" x 8'-1"	343	5	66	5'-1" x 9'-1"	488	5	78	5'-4" x 10'-1"	627	6	82	6'-2" x 11'-1"	1062
6f1	Floor - Longit. - Top		6	16	14'-8"	352	6	17	15'-8"	400	6	17	16'-11"	432	6	18	17'-11"	484	6	18	18'-11"	511	6	19	19'-11"	568	6	19	20'-11"	597
5f2	Floor - Longit. - Bott.		5	16	14'-8"	245	5	17	15'-8"	278	5	17	16'-11"	300	5	18	17'-11"	336	5	18	18'-11"	355	5	19	19'-11"	395	5	19	20'-11"	415
5g1	Curtain Bracket - Vert.		5	4	5'-6"	23	5	4	5'-6"	23	5	4	5'-9"	24	5	4	6'-0"	25	5	4	6'-3"	26	5	4	6'-5"	27	5	4	6'-8"	28
5h1	Basin Backwall - Vert.		5	10	8'-0"	83	5	10	8'-6"	89	5	10	9'-3"	96	5	10	10'-3"	102	5	10	10'-9"	107	5	10	11'-3"	112	5	10	11'-3"	117
6m1	Floor Trans. - Top		6	15	9'-8" x 16'-5"	294	6	16	9'-8" x 16'-11"	319	6	17	9'-8" x 17'-5"	346	6	18	9'-8" x 17'-11"	373	6	19	9'-10" x 18'-7"	405	6	20	9'-10" x 19'-1"	434	6	21	9'-10" x 19'-7"	464
6p1	Curtain - Trans.		6	2	16'-4" x 16'-6"	49	6	2	16'-10" x 17'-0"	51	6	2	17'-3" x 17'-6"	52	6	2	17'-9" x 18'-0"	54	6	2	18'-5" x 18'-8"	56	6	2	18'-11" x 19'-2"	57	6	2	19'-5" x 19'-8"	59
6s1	Wall - Top Slope		6	4	16'-8"	100	6	4	17'-9"	107	6	4	18'-10"	113	6	4	19'-10"	119	6	4	20'-11"	126	6	4	22'-0"	132	6	4	23'-0"	138
5t1	Curtain - Vert.		5	13	6'-4"	86	5	13	6'-4"	86	5	14	6'-7"	96	5	15	7'-1"	111	5	15	7'-4"	111	5	15	7'-4"	115	5	15	7'-7"	119
Total Weight (LB)						2269				2669				3068				3520				3965				4456				5663
Concrete (CY)																														
Footings						9.9				10.6				11.9				12.9				14.1				15.2			16.3	
Walls						2.6				3.6				4.7				5.8				7.9				9.4			11.1	
Total						12.5				14.2				16.6				18.7				22.0				24.6			27.4	

Variable Dimensions

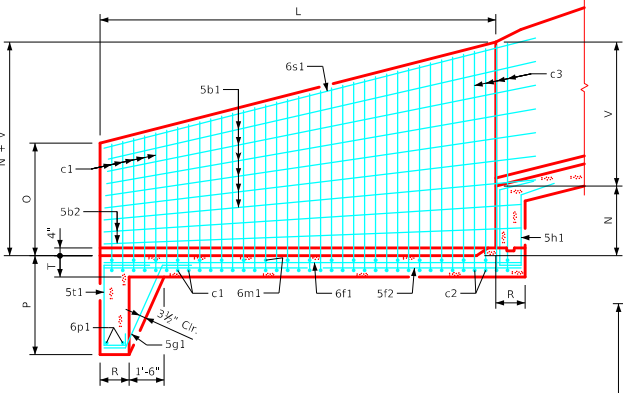
Variable (1)	K+2U-4" (K-S) (No. of c1 - 1) No. of c1 + c2 - 1
Variable (2)	S+2U-4" (K-S) (No. of c2 - 1) No. of c1 + c2 - 1
Variable (3)	O+T-4" (N+V-O) (No. of c1 - 1) No. of c1 + c2 - 1

Table of Flume Basin Dimensions

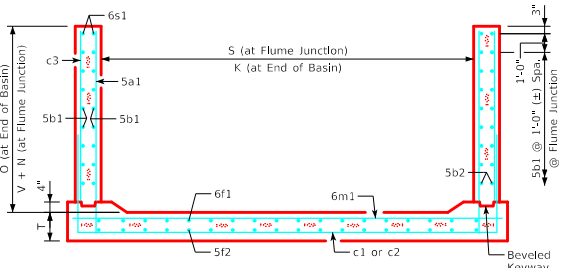
S x H	K	L	M	N	O	P	R	T	U	V
8' x 4'	15'-0"	14'-0"	3'-0"	2'-3"	1'-10"	3'-6"	1'-0"	1'-0"	0'-9"	3'-1 1/2"
8' x 5'	15'-6"	15'-0"	3'-9"	2'-6"	2'-7"	3'-6"	1'-0"	1'-0"	0'-9"	3'-10 3/8"
8' x 6'	16'-0"	16'-0"	4'-6"	2'-9"	3'-5"	3'-6"	1'-3"	1'-0"	0'-9"	4'-7 3/8"
8' x 7'	16'-6"	17'-0"	5'-3"	3'-0"	4'-2"	3'-9"	1'-3"	1'-0"	0'-9"	5'-5"
8' x 8'	17'-0"	18'-0"	6'-0"	3'-3"	4'-11"	4'-0"	1'-3"	1'-0"	0'-10"	6'-2 1/2"
8' x 9'	17'-6"	19'-0"	6'-9"	3'-6"	5'-8"	4'-3"	1'-3"	1'-0"	0'-10"	6'-11 1/8"
8' x 10'	18'-0"	20'-0"	7'-6"	3'-9"	6'-6"	4'-6"	1'-3"	1'-0"	0'-10"	7'-8 3/8"

- ### Flume Basin Notes:
- See Sheet RCF 01-20 for general information.
 - c2 & c3 Bars are lapped.
 - c1 bars are omitted if both "S" and "H" are equal to or larger than 8' and 9' respectively.

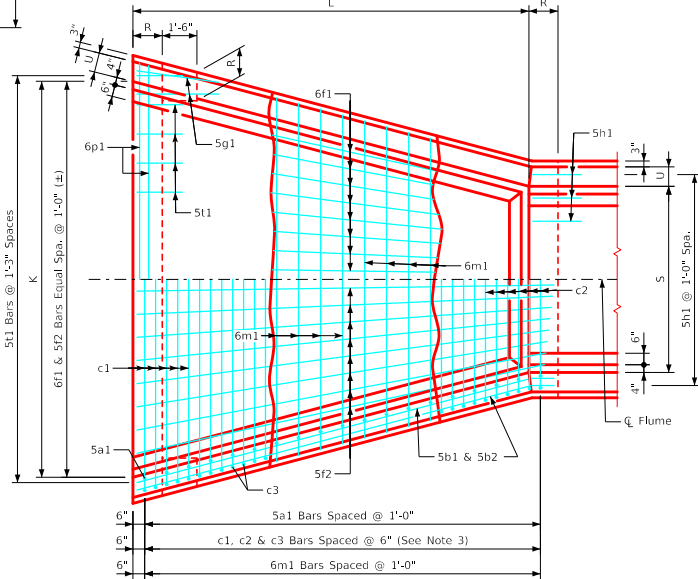
S = Culvert Span
H = Culvert Height



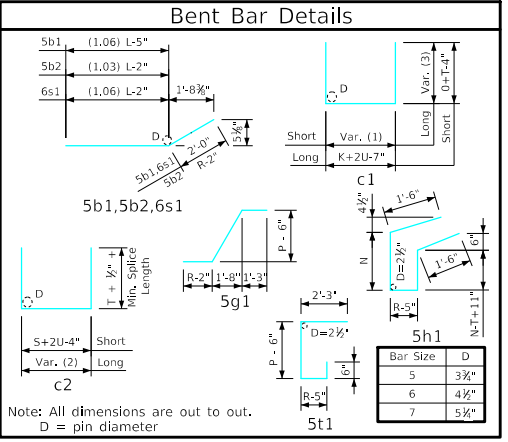
Longitudinal Section



8'-0" x 8'-0" Flume Basin Example Shown



Plan View



LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Standard Design
Single Reinforced Concrete Box Culverts
December, 2020

RCFB 03-20

Flume Basin Details
8'-0" Span

RCFB 03-20