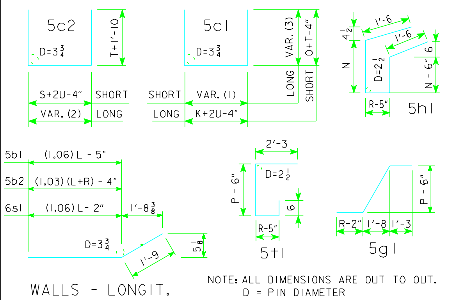
ESTIMATE QUANTITIES - FLUME BASIN

BILL OF REINFORCING STEEL			6′ x 3′			6′ x 4′			6′ x 5′			6′ x 6′			6′ x 8′		
MARK	LOCATION	SHAPE	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT
5a1	WALLS - VERT. - F.F.		28	1′-9:4′-11	97	30	2′-6:5′-11	132	32	3′-4:6′-11	172	34	4′-1:8′-0	214	38	5′-5:9′-9	301
5b1	WALLS - LONGIT. - F.F.		12	15′-1	189	16	16′-2	270	16	17′-3	288	20	18′-4	382	24	20′-5	511
5b2	WALLS - LONGIT. - F.F.		4	13′-10	58	4	15′-2	63	8	16′-2	135	8	17′-5	145	8	19′-6	163
5c1	WALLS - VERT. - B.F.		27	17′-1	481	29	19′-1	578	23	21′-3	510	16	23′-4	389	5	27′-2	142
5c2	WALLS - LONGIT. - B.F.		---	-----	----	---	-----	----	8	13′-5:15′-2	119	17	13′-5:17′-5	274	32	13′-7:21′-4	583
5c3	WALLS - LONGIT. - B.F.		---	-----	----	---	-----	----	16	6′-1:6′-11	109	34	6′-0:8′-0	248	64	6′-0:9′-9	527
6f1	FLOOR - LONGIT.-TOP		14	13′-6	284	14	14′-9	310	15	15′-9	355	15	17′-0	383	16	19′-0	457
5f2	FLOOR - LONGIT.-BOTT.		14	13′-6	197	14	14′-9	215	15	15′-9	246	15	17′-0	266	16	19′-0	317
5g1	CURTAIN BRACKET - VERT.		4	4′-10	20	4	5′-4	22	4	5′-6	23	4	6′-3	26	4	6′-5	27
5h1	BASIN BACKWALL - VERT.		8	6′-10	57	8	7′-7	63	8	8′-1	67	8	8′-10	74	8	9′-4	78
6m1	FLOOR TRANS. - TOP		27	7′-8:14′-3	444	29	7′-8:14′-9	487	31	7′-8:15′-3	533	33	7′-8:15′-9	580	37	7′-10:16′-11	687
6p1	CURTAIN - TRANS.		2	13′-10,14′-3	42	2	14′-3,14′-9	43	2	14′-9,15′-3	45	2	15′-1,15′-9	46	2	16′-3,16′-11	50
6s1	WALL - TOP SLOPE		4	15′-1	91	4	16′-2	97	4	17′-3	104	4	18′-4	110	4	20′-5	123
5t1	CURTAIN - VERT.		11	5′-7	64	12	6′-1	76	12	6′-4	79	13	7′-1	96	13	7′-4	99
TOTAL REINFORCING STEEL			2024 LBS.			2356 LBS.			2785 LBS.			3083 LBS.			4065 LBS.		
TOTAL CONCRETE			8.5 CU. YDS.			10.5 CU. YDS.			12.3 CU. YDS.			14.8 CU. YDS.			19.6 CU. YDS.		

BILL OF REINFORCING STEEL	8′ x 4′			8′ x 5′			8′ x 6′			8′ x 8′			8′ x 10′			
MARK	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	MARK
5a1	30	2′-6:5′-11	132	32	3′-4:6′-11	172	34	4′-1:8′-0	214	38	5′-5:9′-9	301	42	7′-0:11′-10	412	5a1
5b1	16	16′-2	270	16	17′-3	288	20	18′-4	382	24	20′-5	511	32	22′-7	754	5b1
5b2	4	15′-2	63	8	16′-2	135	8	17′-5	145	8	19′-6	163	8	21′-7	180	5b2
5c1	29	21′-1	639	23	23′-3	558	16	25′-4	422	5	29′-2	152	---	-----	----	5c1
5c2	---	-----	----	8	15′-5:17′-2	136	17	15′-5:19′-5	309	32	15′-7:23′-4	650	41	15′-7:25′-7	881	5c2
5c3	---	-----	----	16	6′-1:6′-11	109	34	6′-0:8′-0	248	64	6′-0:9′-9	527	82	7′-0:11′-10	804	5c3
6f1	16	14′-9	354	17	15′-9	402	17	17′-0	434	18	19′-0	514	19	21′-0	599	6f1
5f2	16	14′-9	246	17	15′-9	279	17	17′-0	301	18	19′-0	357	19	21′-0	416	5f2
5g1	4	5′-4	22	4	5′-6	23	4	6′-3	26	4	6′-5	27	4	6′-8	28	5g1
5h1	10	7′-7	79	10	8′-1	84	10	8′-10	92	10	9′-4	97	10	10′-4	108	5h1
6m1	29	9′-8:16′-9	575	31	9′-8:17′-3	626	33	9′-8:17′-9	679	37	9′-10:18′-11	798	41	9′-10:19′-11	915	6m1
6p1	2	16′-3:16′-9	49	2	16′-9:17′-3	51	2	17′-1:17′-9	52	2	18′-3,18′-11	56	2	19′-3:19′-11	59	6p1
6s1	4	16′-2	97	4	17′-3	104	4	18′-4	110	4	20′-5	123	4	22′-7	136	6s1
5t1	13	6′-1	82	14	6′-4	92	14	7′-1	103	15	7′-4	115	16	7′-7	127	5t1
TOTAL REINFORCING STEEL	2608 LBS.			3059 LBS.			3517 LBS.			4391 LBS.			5419 LBS.			
TOTAL CONCRETE	11.8 CU. YDS.			13.6 CU. YDS.			16.4 CU. YDS.			21.2 CU. YDS.			26.2 CU. YDS.			

BENT BAR DETAILS



NOTE: ALL DIMENSIONS ARE OUT TO OUT.
D = PIN DIAMETER

TABLE OF FLUME BASIN DIMENSIONS

S x H	K	L	M	N	O	P	R	T	U	V
6′ x 3′	12′-6	13′-0	2′-3	2′-0	1′-2	3′-0	9	11	9	2′-3⅞
6′ x 4′	13′-0	14′-0	3′-0	2′-3	1′-11	3′-3	1′-0	11	9	3′-1⅛
6′ x 5′	13′-6	15′-0	3′-9	2′-6	2′-9	3′-6	1′-0	11	9	3′-10⅜
6′ x 6′	14′-0	16′-0	4′-6	2′-9	3′-6	4′-0	1′-3	11	9	4′-7⅝
6′ x 8′	15′-0	18′-0	6′-0	3′-0	4′-10	4′-3	1′-3	11	10	6′-2¼
8′ x 4′	15′-0	14′-0	3′-0	2′-3	1′-11	3′-3	1′-0	11	9	3′-1⅛
8′ x 5′	15′-6	15′-0	3′-9	2′-6	2′-9	3′-6	1′-0	11	9	3′-10⅜
8′ x 6′	16′-0	16′-0	4′-6	2′-9	3′-6	4′-0	1′-3	11	9	4′-7⅝
8′ x 8′	17′-0	18′-0	6′-0	3′-0	4′-10	4′-3	1′-3	11	10	6′-2¼
8′ x 10′	18′-0	20′-0	7′-6	3′-6	6′-5	4′-6	1′-3	11	10	7′-8¾

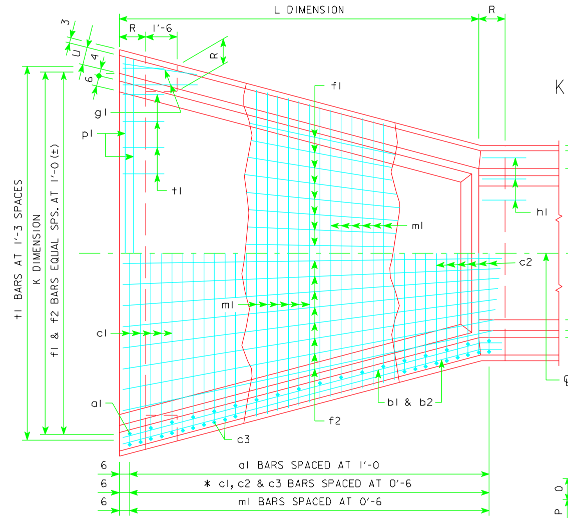
VARIABLE DIMENSIONS

VARIABLE (1)	$K+2U-4'' - \frac{(K-S)(\text{No. of c1} - 1)}{\text{No. of c1} + \text{c2} - 1}$
VARIABLE (2)	$S+2U-4'' + \frac{(K-S)(\text{No. of c2} - 1)}{\text{No. of c1} + \text{c2} - 1}$
VARIABLE (3)	$O+T-4'' + \frac{(N+V-O)(\text{No. of c1} - 1)}{\text{No. of c1} + \text{c2} - 1}$

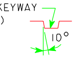
CONCRETE PLACEMENT

BASIN	FOOTING	WALLS
6′ x 3′	6.8	1.8
6′ x 4′	7.9	2.6
6′ x 5′	8.6	3.6
6′ x 6′	10.2	4.7
6′ x 8′	11.9	7.6
8′ x 4′	9.1	2.6
8′ x 5′	10.0	3.6
8′ x 6′	11.7	4.7
8′ x 8′	13.6	7.6
8′ x 10′	15.4	10.8

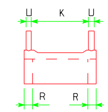
S = CULVERT SPAN
H = CULVERT HEIGHT



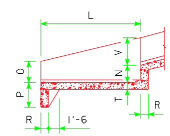
PLAN VIEW

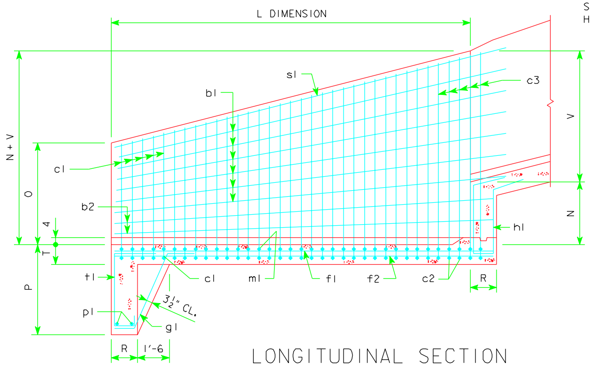


KEYWAY DETAIL



END VIEW

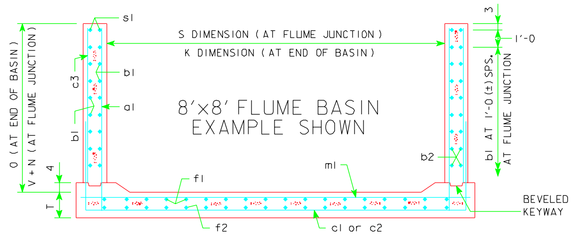




LONGITUDINAL SECTION

FLUME BASIN NOTES:

SEE STANDARD SHEET RCF-01-04 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 10′ RESPECTIVELY.



8′x8′ FLUME BASIN EXAMPLE SHOWN

LATEST REVISION DATE :	APPROVED BY :	STANDARD DESIGN REINFORCED CONCRETE FLUME BASINS FOR REINFORCED CONCRETE FLUMES IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION JANUARY, 2004 RCFB-02-04

RCFB-02-04 - THIS SHEET ISSUED 01-04.

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