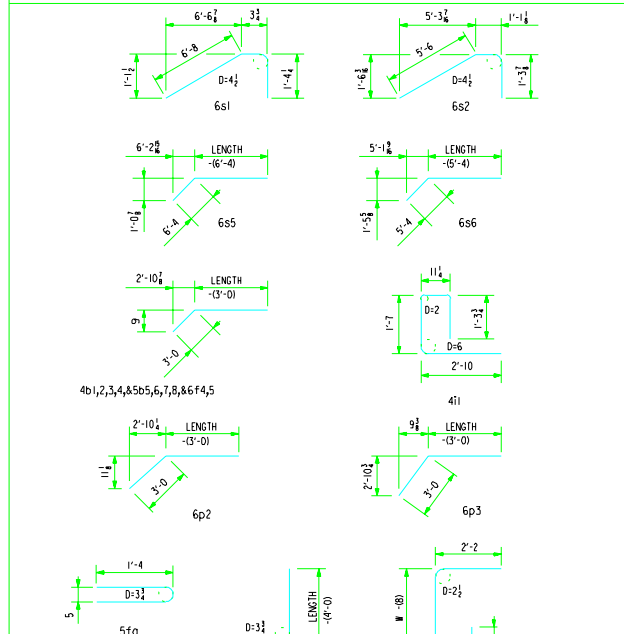


BILL OF REINFORCING FOR ONE HEADWALL 45° SKEW CULVERT SPAN X CULVERT HEIGHT

LOCATION	SHAPE	BAR	12' x 12'		12' x 10'		12' x 8'		12' x 6'		10' x 12'		10' x 10'		10' x 8'		10' x 6'		10' x 5'		10' x 4'		BAR	
			NO.	LENGTH	WT.	NO.	LENGTH	WT.	NO.	LENGTH	WT.	NO.	LENGTH	WT.	NO.	LENGTH	WT.	NO.	LENGTH	WT.	NO.	LENGTH		WT.
FENCE ANCHOR		5f0	2	3'-1"	7	2	3'-1"	7	2	3'-1"	7	2	3'-1"	7	2	3'-1"	7	2	3'-1"	7	2	3'-1"	7	5f0
WINGWALL, B.F.H. L		4b1	1	51'-5	43	1	51'-5	43	1	51'-5	43	1	51'-5	43	1	51'-5	43	1	51'-5	43	1	51'-5	43	4b1
WINGWALL, B.F.H. S		4b2	1	46'-0	32	1	39'-0	26	1	32'-0	21	1	25'-0	17	1	46'-0	32	1	39'-0	26	1	32'-0	21	4b2
WINGWALL, B.F.H. L		4b3	10	19'-6 TO 10 71'-10	312	8	19'-5 TO 10 60'-1	217	6	19'-5 TO 10 48'-6	138	4	19'-5 TO 10 36'-10	75	10	19'-5 TO 10 60'-1	312	8	19'-5 TO 10 48'-6	138	4	19'-5 TO 10 36'-10	75	4b3
WINGWALL, B.F.H. S		4b4	10	12'-8 TO 10 44'-3	192	8	12'-9 TO 10 37'-3	134	6	12'-9 TO 10 30'-3	86	4	12'-9 TO 10 23'-3	48	10	12'-9 TO 10 37'-3	192	8	12'-9 TO 10 30'-3	86	4	12'-9 TO 10 23'-3	48	4b4
WINGWALL, F.F.H. L		5b5	1	74'-9	80	1	63'-1	68	1	51'-5	56	1	39'-9	41	1	74'-9	80	1	63'-1	68	1	51'-5	56	5b5
WINGWALL, F.F.H. S		5b6	1	46'-0	50	1	39'-0	41	1	32'-0	33	1	25'-0	26	1	46'-0	50	1	39'-0	41	1	32'-0	33	5b6
WINGWALL, F.F.H. L		5b7	11	13'-6 TO 10 71'-10	500	9	13'-6 TO 10 60'-1	353	7	13'-6 TO 10 48'-6	230	5	13'-6 TO 10 36'-10	131	11	13'-6 TO 10 60'-1	500	9	13'-6 TO 10 48'-6	230	5	13'-6 TO 10 36'-10	131	5b7
WINGWALL, F.F.H. S		5b8	11	9'-3 TO 10 42'-3	309	9	9'-3 TO 10 37'-3	218	7	9'-3 TO 10 33'-3	144	5	9'-3 TO 10 29'-3	85	11	9'-3 TO 10 42'-3	309	9	9'-3 TO 10 37'-3	218	7	9'-3 TO 10 33'-3	144	5b8
WINGWALL, F.F.V. L		4c1	72	2'-10 TO 10 15'-0	429	60	2'-10 TO 10 12'-11	316	49	2'-10 TO 10 11'-0	226	37	2'-10 TO 10 9'-0	146	72	2'-10 TO 10 15'-0	429	60	2'-10 TO 10 12'-11	316	49	2'-10 TO 10 11'-0	226	4c1
WINGWALL, F.F.V. S		4c2	43	2'-10 TO 10 14'-0	254	36	2'-10 TO 10 12'-10	188	29	2'-10 TO 10 10'-10	132	22	2'-10 TO 10 8'-10	86	43	2'-10 TO 10 14'-0	254	36	2'-10 TO 10 12'-10	188	29	2'-10 TO 10 10'-10	132	4c2
WINGWALL, F.F.V. L		4c3	1	13'-9	9	1	11'-9	16	1	9'-9	7	1	7'-9	5	1	13'-9	9	1	11'-9	16	1	9'-9	7	4c3
WINGWALL, F.F.V. S		4c3	2	13'-9	18	2	11'-9	16	2	9'-9	13	2	7'-9	10	2	13'-9	18	2	11'-9	16	2	9'-9	13	4c3
WINGWALL, B.F.V. L		5c4	15	2'-10 TO 10 5'-3	63	15	2'-10 TO 10 5'-3	63	15	2'-10 TO 10 5'-3	63	15	2'-10 TO 10 5'-3	63	15	2'-10 TO 10 5'-3	63	15	2'-10 TO 10 5'-3	63	15	2'-10 TO 10 5'-3	63	5c4
WINGWALL, B.F.V. S		5c5	4	2'-10 TO 10 3'-8	14	4	2'-10 TO 10 3'-8	14	4	2'-10 TO 10 3'-8	14	4	2'-10 TO 10 3'-8	14	4	2'-10 TO 10 3'-8	14	4	2'-10 TO 10 3'-8	14	4	2'-10 TO 10 3'-8	14	5c5
WINGWALL, B.F.V. L		5c6	57	9'-5 TO 10 19'-0	845	45	9'-5 TO 10 16'-11	618	34	9'-5 TO 10 15'-0	433	22	9'-5 TO 10 13'-0	257	57	9'-5 TO 10 19'-0	845	45	9'-5 TO 10 16'-11	618	34	9'-5 TO 10 15'-0	433	5c6
WINGWALL, B.F.V. S		5c7	39	8'-9 TO 10 18'-10	546	32	8'-9 TO 10 16'-10	414	25	8'-9 TO 10 14'-10	298	18	8'-9 TO 10 12'-10	196	39	8'-9 TO 10 18'-10	546	32	8'-9 TO 10 16'-10	414	25	8'-9 TO 10 14'-10	298	5c7
WINGWALL, B.F.V. L		5c8	43	10'-6	471	31	10'-6	340	20	10'-6	219	-	10'-6	120	43	10'-6	471	31	10'-6	340	20	10'-6	219	5c8
WINGWALL, B.F.V. S		5c8	25	10'-6	274	18	10'-6	197	11	10'-6	120	-	10'-6	100	25	10'-6	274	18	10'-6	197	11	10'-6	120	5c8
WINGWALL, B.F.V. L		5c9	1	17'-8	18	1	15'-8	33	1	13'-8	14	1	11'-8	12	1	17'-8	18	1	15'-8	33	1	13'-8	14	5c9
WINGWALL, B.F.V. S		5c9	2	17'-8	33	2	15'-8	33	2	13'-8	14	2	11'-8	24	2	17'-8	33	2	15'-8	33	2	13'-8	14	5c9
APRON, LONGIT, BOT. L		4d1	9	37'-8	226	9	32'-0	192	9	26'-4	158	9	20'-8	124	7	37'-8	226	9	32'-0	192	9	26'-4	158	4d1
APRON, LONGIT, BOT. S		4d2	3	67'-3	139	3	55'-8	116	3	44'-0	92	3	32'-6	65	3	67'-3	139	3	55'-8	116	3	44'-0	92	4d2
APRON, LONGIT, BOT. L		4d3	3	41'-10	88	3	34'-10	70	3	27'-11	56	3	21'-10	42	3	41'-10	88	3	34'-10	70	3	27'-11	56	4d3
APRON, LONGIT, BOT. S		4d3	3	41'-10	88	3	34'-10	70	3	27'-11	56	3	21'-10	42	3	41'-10	88	3	34'-10	70	3	27'-11	56	4d3
APRON, LONGIT, TOP		6f1	12	37'-8	679	12	32'-0	576	12	26'-4	475	12	20'-8	372	10	37'-8	679	12	32'-0	576	12	26'-4	475	6f1
APRON, LONGIT, TOP		6f2	14	7'-9 TO 10 34'-0	439	12	6'-7 TO 10 28'-0	319	9	6'-5 TO 10 22'-8	197	6	6'-10 TO 10 17'-0	107	14	7'-9 TO 10 34'-0	439	12	6'-7 TO 10 28'-0	319	9	6'-5 TO 10 22'-8	197	6f2
APRON, LONGIT, TOP		6f3	9	6'-3 TO 10 33'-4	268	7	7'-8 TO 10 28'-1	188	5	8'-9 TO 10 22'-5	117	4	6'-5 TO 10 16'-9	70	9	6'-3 TO 10 33'-4	268	7	7'-8 TO 10 28'-1	188	5	8'-9 TO 10 22'-5	117	6f3
APRON, LONGIT, TOP		6f4	1	74'-8	115	1	63'-1	98	1	51'-5	80	1	39'-9	60	1	74'-8	115	1	63'-1	98	1	51'-5	80	6f4
APRON, LONGIT, TOP		6f5	1	45'-11	72	1	39'-0	59	1	32'-0	48	1	25'-0	38	1	45'-11	72	1	39'-0	59	1	32'-0	48	6f5
PARAPET, VERTICAL		4d4	25	6'-8	111	25	6'-8	111	25	6'-8	111	25	6'-8	111	25	6'-8	111	25	6'-8	111	25	6'-8	111	4d4
PARAPET, HORIZONTAL		7j1	4	17'-3	141	4	17'-3	141	4	17'-3	141	4	17'-3	141	4	17'-3	141	4	17'-3	141	4	17'-3	141	7j1
APRON, TRANS, TOP		6m1	3	15'-4 TO 10 17'-0	219	11	15'-0 TO 10 16'-11	264	10	15'-7 TO 10 16'-8	242	10	15'-2 TO 10 16'-8	239	3	15'-4 TO 10 17'-0	219	11	15'-0 TO 10 16'-11	264	10	15'-7 TO 10 16'-8	242	6m1
APRON, TRANS, TOP		6m2	31	17'-5 TO 10 28'-8	1073	22	17'-5 TO 10 25'-4	706	16	17'-1 TO 10 22'-8	478	8	16'-11 TO 10 19'-6	219	31	17'-5 TO 10 28'-8	1073	22	17'-5 TO 10 25'-4	706	16	17'-1 TO 10 22'-8	478	6m2
APRON, TRANS, TOP		6m3	11	18'-7	307	11	16'-10	278	11	15'-6	256	11	13'-11	230	9	18'-7	307	11	16'-10	278	11	15'-6	256	6m3
APRON, TRANS, BOT. L		6m4	24	10'-6 TO 10 35'-1	822	20	10'-6 TO 10 30'-10	621	16	10'-6 TO 10 26'-7	446	12	10'-6 TO 10 22'-3	295	24	10'-6 TO 10 35'-1	822	20	10'-6 TO 10 30'-10	621	16	10'-6 TO 10 26'-7	446	6m4
CURTAIN, HORIZONTAL		6p1	4	17'-2	103	4	17'-2	103	4	17'-2	103	4	14'-4	86	4	17'-2	103	4	17'-2	103	4	17'-2	103	6p1
CURTAIN, HORIZONTAL		6p2	4	42'-4	266	4	36'-0	216	4	29'-8	178	4	23'-4	140	4	42'-4	266	4	36'-0	216	4	29'-8	178	6p2
CURTAIN, HORIZONTAL		6p3	4	15'-8	94	4	13'-8	82	4	11'-7	70	4	9'-7	58	4	15'-8	94	4	13'-8	82	4	11'-7	70	6p3
WING SLOPE, BOTH F.		6s1	2	8'-4	25	2	8'-4	25	2	8'-4	25	2	8'-4	25	2	8'-4	25	2	8'-4	25	2	8'-4	25	6s1
WING SLOPE, BOTH F.		6s2	2	7'-11	24	2	7'-11	24	2	7'-11	24	2	7'-11	24	2	7'-11	24	2	7'-11	24	2	7'-11	24	6s2
WING SLOPE, BOTH F.		6s3	2	69'-4	214	2	57'-6	179	2	45'-9	143	2	33'-10	102	2	69'-4	214	2	57'-6	179	2	45'-9	143	6s3
WING SLOPE, BOTH F.		6s4	2	42'-3	133	2	35'-0	105	2	27'-9	83	2	20'-6	62	2	42'-3	133	2	35'-0	105	2	27'-9	83	6s4
WING SLOPE, F.F.		6s5	1	74'-6	15	1	62'-8	97	1	50'-10	19	1	39'-9	9	1	74'-6	15	1	62'-8	97	1	50'-10	19	6s5
WING SLOPE, F.F.		6s6	1	47'-4	74	1	40'-1	63	1	32'-0	49	1	25'-6	38	1	47'-4	74	1	40'-1	63	1	32'-0	49	6s6
CURTAIN, VERT.		511	46	7'-11	380	41	7'-5	317	34	6'-11	245	27	6'-5	181	46	7'-11	380	41	7'-5	317	34	6'-11	245	511

BENT BAR DETAILS



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

HEADWALL NOTES:
THIS HEADWALL IS BASED ON A 3% SLOPE NORMAL TO CENTERLINE OF ROADWAY.
THE SIDES OF THE FOOTING ARE TO BE FORMED TO INSURE CORRECT LINE AND GRADE.
ALL EXPOSED CORNERS OF 90° OR SHARPER ARE TO BE FILLETED WITH A 3/4" DRESSED AND BEVELED STRIP.
ALL REINFORCING IS TO BE SECURELY WIRED IN PLACE BEFORE THE CONCRETE IS POURED. ALL SLAB AND FLOOR REINFORCING STEEL IS TO BE SUPPORTED BY BAR CHAIRS AT INTERVALS OF NOT MORE THAN 3'-0" EITHER DIRECTION AS OUTLINED IN THE STANDARD SPECIFICATIONS.
CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN. CLEARANCE TO THE BOTTOM ENDS OF VERTICAL BARS SHALL BE 3 INCHES.
CONCRETE QUANTITIES ARE ESTIMATED FROM BACK OF PARAPET.
HORIZONTAL TAILS OF BARS 'b' & 's' ESTIMATED TO EXTEND 2'-0" BEYOND BACK OF PARAPET