CAP BILL OF REINFORCEMENT

SUPERSTRUCTURE HEIGHT SDH=Beam Height +pad height +(haunch+slab) [if applicable]		16'-0" BRIDGE WIDTH					24'-0" BRIDGE WIDTH						32'-0" BRIDGE WIDTH				
		MARK	TYPE	NO.	SIZE	LENGTH	MARK	TYPE	NO.	SIZE	LENGTH	MARK	TYPE	NO.	SIZE	LENGTH
H1	12" ≤SDH≤27"	A1e	14s	30	5	11- 0	A1e	14s	43	5	11- 0	A1e	14s	50	5	11- 0
		A2e	Str.	9	8	32- 5	A2e	Str.	9	8	43- 8	A2e	Str.	9	8	55- 0
		A3e	Str.	4	5	32- 5	A3e	Str.	4	5	43- 8	A3e	Str.	4	5	55- 0
H2	27" <SDH≤35"	A1e	14s	34	5	11- 0	A1e	14s	43	5	11- 0	A1e	14s	57	5	11- 0
		A2e	Str.	9	8	36- 1	A2e	Str.	9	8	47- 4	A2e	Str.	9	8	58- 8
		A3e	Str.	4	5	36- 1	A3e	Str.	4	5	47- 4	A3e	Str.	4	5	58- 8
H3	35" <SDH≤50"	A1e	14s	41	5	11- 0	A1e	14s	50	5	11- 0	A1e	14s	62	5	11- 0
		A2e	Str.	9	8	43- 3	A2e	Str.	9	8	54- 6	A2e	Str.	18	8	35- 8
		A3e	Str.	4	5	43- 3	A3e	Str.	4	5	54- 6	A3e	Str.	8	5	34- 3

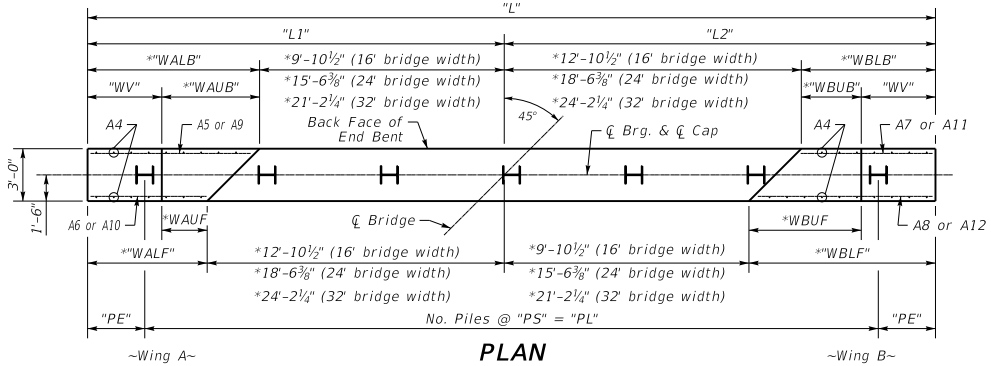
WING BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	MARK	TYPE	NO.	SIZE	LENGTH	MARK	TYPE	NO.	SIZE	LENGTH
A4e	Str.	20	5	4- 0	A7e	Str.	2	5	4-10	A10e	Str.	1	6	1-10
A5e	Str.	2	5	4- 4	A8e	Str.	2	5	7- 4	A11e	Str.	1	6	4-10
A6e	Str.	2	5	1-10	A9e	Str.	1	6	4- 4	A12e	Str.	1	6	7- 4
A4e	Str.	26	5	4- 8	A7e	Str.	3	5	6- 8	A10e	Str.	1	6	3- 8
A5e	Str.	3	5	6- 2	A8e	Str.	3	5	9- 2	A11e	Str.	1	6	6- 8
A6e	Str.	3	5	3- 8	A9e	Str.	1	6	6- 2	A12e	Str.	1	6	9- 2
A4e	Str.	40	5	5-11	A7e	Str.	4	5	10- 2	A10e	Str.	1	6	7- 5
A5e	Str.	4	5	9- 9	A8e	Str.	4	5	12- 9	A11e	Str.	1	6	10- 6
A6e	Str.	4	5	7- 2	A9e	Str.	1	6	10- 0	A12e	Str.	1	6	13- 0

BRIDGE WIDTH	PILE LOAD		PILES			DIMENSIONS									WING A										WING B								QUANTITIES	
						Geometry			Reinforcement						Back Face					Front Face						Back Face						Front Face					
	SIZE	TONS	NO.	PE	PS	PL	L	L1	L2	A	B	C	D	E	F	G	H	WALB	WAUB	WV	WX	J	K	WALF	WAUF	WV	WX	J	K	WBLB	WBUB	WV	WX	J	K	WBLF	WBUF	WV	WX	J	K	CONC. (C.Y.)	STEEL (LBS.)
16	H1	60	5	2'-4½"	7'-0"	28'-0"	32'-9"	14'-10½"	17'-10½"	4½"	3	6"	1'-0"	6	12"	5'-0"	2	5'-0"	0	0	0	5	4'-0"	2'-0"	0	0	0	2	1'-0"	5'-0"	0	0	0	5	4'-0"	8'-0"	0	0	0	8	7'-0"	13.9	1410
	H2	71	5	3'-2½"	7'-6"	30'-0"	36'-5"	16'-8½"	19'-8½"	4½"	3	11"	1'-10"	7	11"	5'-6"	3	6'-10"	0	0	0	6	5'-0"	3'-10"	0	0	0	4	3'-0"	6'-10"	0	0	0	7	6'-0"	9'-10"	0	0	0	9	8'-0"	17.2	1655
	H3	76	6	3'-0½"	7'-6"	37'-6"	43'-7"	20'-3½"	23'-3½"	4½"	3	10"	1'-8"	7	11"	5'-6"	4	10'-5"	4'-8"	5'-9"	2'-0"	10	9'-0"	7'-5"	1'-8"	5'-9"	2'-0"	7	6'-0"	10'-5"	4'-8"	5'-9"	2'-0"	10	9'-0"	13'-5"	7'-8"	5'-9"	2'-0"	13	12'-0"	23.9	2167
24	H1	69	6	3'-3⅜"	7'-6"	37'-6"	44'-0¾"	20'-6⅜"	23'-6⅜"	3⅜"	4	8"	2'-0"	7	11"	5'-6"	2	5'-0"	0	0	0	5	4'-0"	2'-0"	0	0	0	2	1'-0"	5'-0"	0	0	0	5	4'-0"	8'-0"	0	0	0	8	7'-0"	17.7	1877
	H2	85	6	3'-10⅜"	8'-0"	40'-0"	47'-8¾"	22'-4⅜"	25'-4⅜"	4⅜"	4	10"	2'-6"	7	12"	6'-0"	3	6'-10"	0	0	0	6	5'-0"	3'-10"	0	0	0	4	3'-0"	6'-10"	0	0	0	7	6'-0"	9'-10"	0	0	0	9	8'-0"	21.0	2076
	H3	91	7	3'-5⅜"	8'-0"	48'-0"	54'-10¾"	25'-11⅜"	28'-11⅜"	5⅜"	4	8"	2'-0"	7	12"	6'-0"	4	10'-5"	4'-8"	5'-9"	2'-0"	10	9'-0"	7'-5"	1'-8"	5'-9"	2'-0"	7	6'-0"	10'-5"	4'-8"	5'-9"	2'-0"	10	9'-0"	13'-5"	7'-8"	5'-9"	2'-0"	13	12'-0"	27.6	2588
32	H1	79	7	3'-8¼"	8'-0"	48'-0"	55'-4½"	26'-2¼"	29'-2¼"	5¼"	4	9"	2'-3"	7	12"	6'-0"	2	5'-0"	0	0	0	5	4'-0"	2'-0"	0	0	0	2	1'-0"	5'-0"	0	0	0	5	4'-0"	8'-0"	0	0	0	8	7'-0"	21.4	2277
	H2	84	8	3'-3¼"	7'-6"	52'-6"	59'-0½"	28'-0¼"	31'-0¼"	3¼"	4	8"	2'-0"	7	11"	5'-6"	3	6'-10"	0	0	0	6	5'-0"	3'-10"	0	0	0	4	3'-0"	6'-10"	0	0	0	7	6'-0"	9'-10"	0	0	0	9	8'-0"	24.7	2557
	H3	93	9	3'-1¼"	7'-6"	60'-0"	66'-2½"	31'-7¼"	34'-7¼"	3¼"	3	11"	1'-10"	7	11"	5'-6"	4	10'-5"	4'-8"	5'-9"	2'-0"	10	9'-0"	7'-5"	1'-8"	5'-9"	2'-0"	7	6'-0"	10'-5"	4'-8"	5'-9"	2'-0"	10	9'-0"	13'-5"	7'-8"	5'-9"	2'-0"	13	12'-0"	31.4	3190

NOTES:

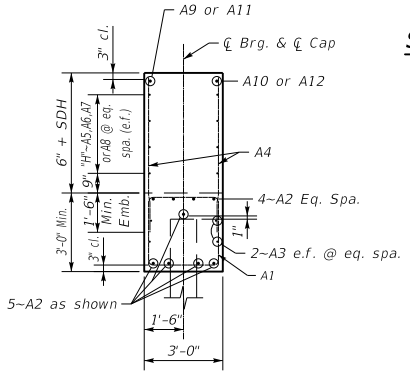
1) Conform to KYTC, Standard Specifications, Current Edition.
2) Concrete to be Class "A", 3500 psi.
3) Rebar to be epoxy coated A615, Grade 60.
4) Maintain 2" clear cover to reinforcement unless otherwise noted.
5) End Bents are designed for the maximum span of the following steel and concrete beams as shown in the current standards:
   H1 – B12, CB12, B17, CB17, B21 or rolled steel beams up to 16" nominal depth.
   H2 – CB21, B27, CB27, B33 or rolled steel beams up to 24" nominal depth.
   H3 – CB33, B42, CB42 or rolled steel beams up to 36" nominal depth.
6) Piles may be HP12x53 or 16" Steel Pipes with ½" wall thickness.
7) Piles driven to rock must be driven to Refusal. Friction Piles must be driven to (Pile Load/0.4) using the Gates Method.
8) Pile load given is Factored Strength Load.
9) Piles must be driven 10' into existing ground or to refusal on bedrock. Piles at wet crossings must be driven to 10' below stream bed or to refusal on bedrock. A minimum pile length of 10' is required in all circumstances.
10) Contractor shall provide a hammer capable of driving the piling to refusal or capacity without encountering excessive blow counts or damaging the pile. Contractor shall be responsible for all damaged piling.



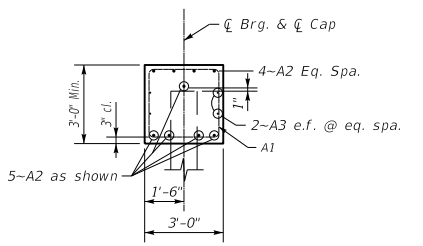
PLAN

(Left skew shown, right skew opposite hand)

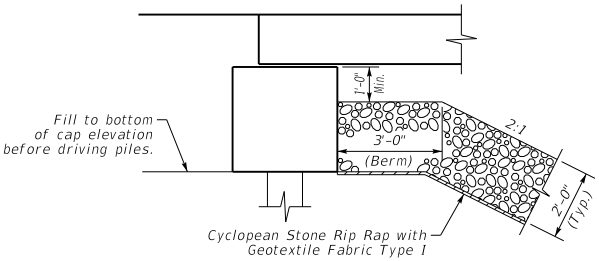
*Adjust 1'-0¾" as necessary for rolled beam superstructure



SECTION A-A

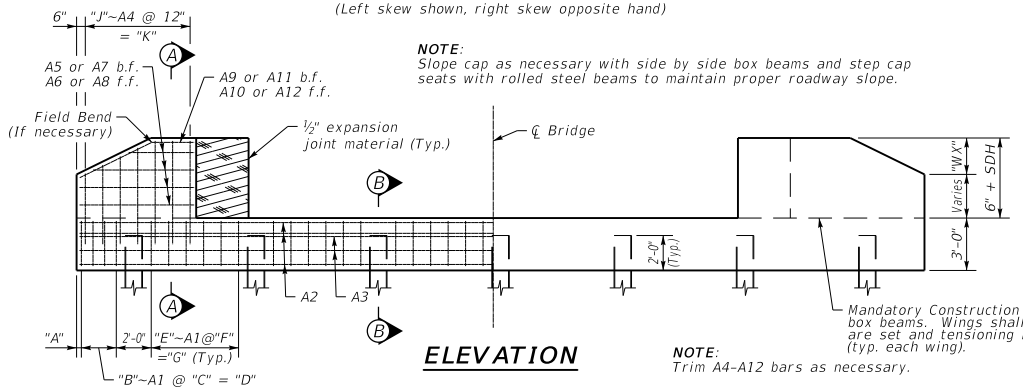


SECTION B-B



SECTION THRU END BENT

(Showing berm and fill slope)



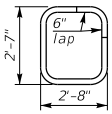
ELEVATION

NOTE:
Slope cap as necessary with side by side box beams and step cap seats with rolled steel beams to maintain proper roadway slope.

NOTE:
Mandatory Construction joint for side by side box beams. Wings shall be poured after beams are set and tensioning rods are tightened (typ. each wing).

NOTE:
Trim A4-A12 bars as necessary.

NOTE:
A2 bars (#8), 5'-6" min. lap if required
A3 bars (#5), 2'-8" min. lap if required



A1 Bar

~Size #5~

KENTUCKY
DEPARTMENT OF HIGHWAYS

PILE END BENT
45° SKEW

STANDARD DRAWING NO. BSE-004

SUBMITTED _____ DIRECTOR DIVISION OF STRUCTURAL DESIGN — 02-26-20 DATE

APPROVED _____ STATE HIGHWAY ENGINEER — 02-26-20 DATE