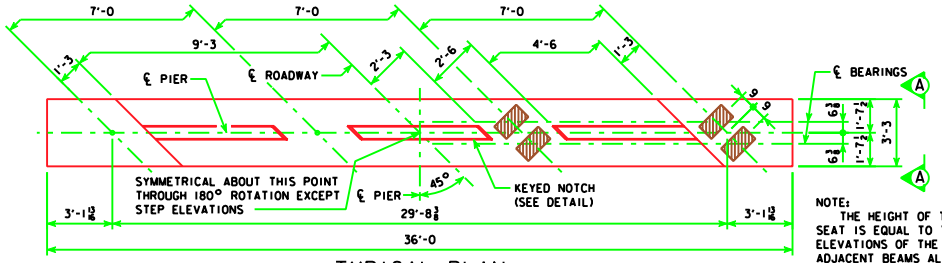
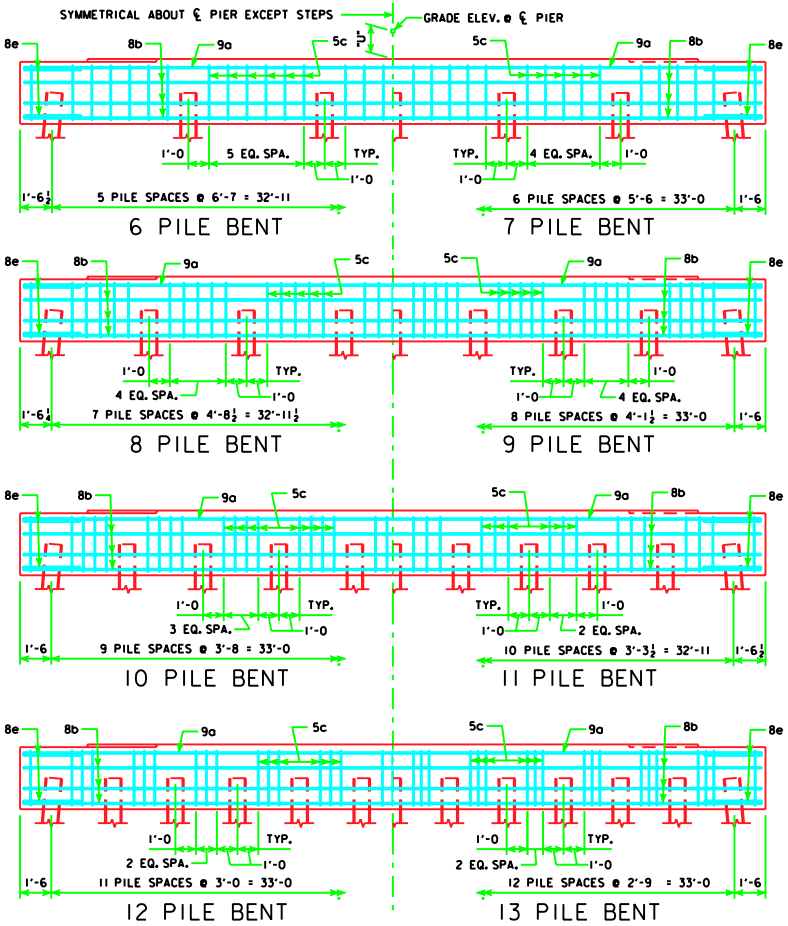
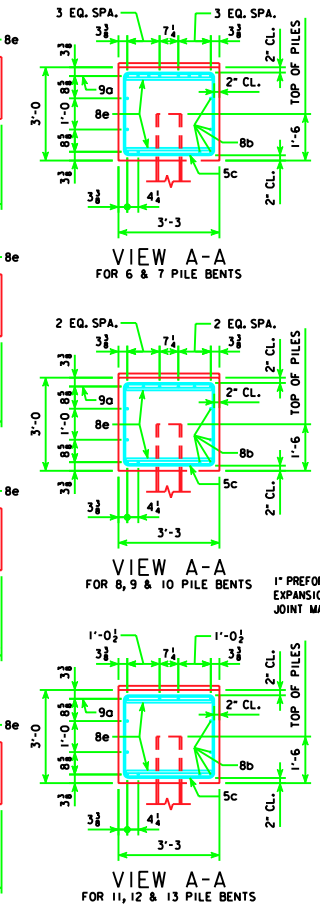
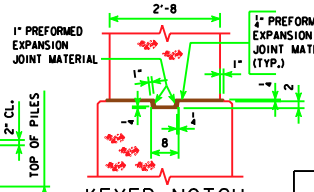


TYPICAL PLAN

NOTE:
THE HEIGHT OF THE STEPS ON THE BRIDGE SEAT IS EQUAL TO THE DIFFERENCE IN ELEVATIONS OF THE TOP OF SLAB AT ADJACENT BEAMS ALONG ℄ PIER.
SEE SHEET H24-29-06 FOR "U" DIMENSION.







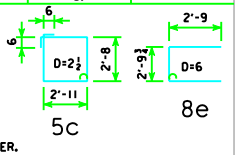
KEYED NOTCH DETAIL

REINFORCING BAR LIST AND ESTIMATED QUANTITIES - PER PILE BENT

		6 PILE BENT			7 PILE BENT			8 PILE BENT			9 PILE BENT			10 PILE BENT			11 PILE BENT		
BAR	SHAPE	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT
9a		8	35'-8	970	8	35'-8	970	6	35'-8	728	6	35'-8	728	6	35'-8	728	4	35'-8	485
8b		8	35'-8	762	8	35'-8	762	8	35'-8	762	8	35'-8	762	8	35'-8	762	8	35'-8	762
5c		32	12'-2	406	32	12'-2	406	37	12'-2	470	42	12'-2	533	38	12'-2	482	32	12'-2	406
8e		4	8'-4	89	4	8'-4	89	4	8'-4	89	4	8'-4	89	4	8'-4	89	4	8'-4	89
(4) REINFORCING STEEL (LB.)		2227			2227			2049			2112			2061			1742		
STRUCTURAL (2) CONCRETE (CY)	PILE TYPE																		
	1, 2	-----			-----			13.1			13.0			13.0			12.9		
	3	13.4			13.4			13.4			13.4			13.4			-----		

		12 PILE BENT			13 PILE BENT		
BAR	SHAPE	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT
9a		4	35'-8	485	4	35'-8	485
8b		8	35'-8	762	8	35'-8	762
5c		35	12'-2	444	38	12'-2	482
8e		4	8'-4	89	4	8'-4	89
(4) REINFORCING STEEL (LB.)		1780			1818		
STRUCTURAL (2) CONCRETE (CY)	PILE TYPE						
	1, 2	12.9			12.8		
	3	-----			-----		

BENT BAR DETAILS



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

℄-℄ ABUTMENT BEARING	FRICTION BEARING PILING — PIOA TYPE 1 OR 2: NUMBER OF TRESTLE PILES AND SPACING	(1) "K" (INCHES)	DES. PILE BRG.(TONS) W/IMPACT	DES. PILE (3) BRG.(TONS) W/O IMPACT	FRICTION OR POINT BEARING PILING — PIOA TYPE 3: NUMBER OF TRESTLE PILES AND SPACING	(1) "K" (INCHES)	DES. PILE BRG.(TONS) W/IMPACT	DES. PILE (3) BRG.(TONS) W/O IMPACT
138'-10	10 PILES @ 3'-8 CTRS.	14	28	26	6 PILES @ 6'-7 CTRS.	16	47	43
	8 PILES @ 4'-8 1/2 CTRS.	16	35	32	7 PILES @ 5'-6 CTRS.	18	40	37
151'-4	10 PILES @ 3'-8 CTRS.	14	30	27	6 PILES @ 6'-7 CTRS.	16	49	45
	9 PILES @ 4'-1 1/2 CTRS.	16	33	30	7 PILES @ 5'-6 CTRS.	18	42	39
163'-10	11 PILES @ 3'-3 1/2 CTRS.	14	29	27	7 PILES @ 5'-6 CTRS.	16	46	42
	9 PILES @ 4'-1 1/2 CTRS.	16	36	33	7 PILES @ 5'-6 CTRS.	18	46	42
176'-4	12 PILES @ 3'-0 CTRS.	14	28	26	7 PILES @ 5'-6 CTRS.	16	48	44
	10 PILES @ 3'-8 CTRS.	16	34	31	8 PILES @ 4'-8 1/2 CTRS.	18	42	39
188'-10	12 PILES @ 3'-0 CTRS.	14	29	27	7 PILES @ 5'-6 CTRS.	16	50	47
	10 PILES @ 3'-8 CTRS.	16	35	33	8 PILES @ 4'-8 1/2 CTRS.	18	44	41
201'-4	*12 PILES @ 3'-0 CTRS.	14	33	31	8 PILES @ 4'-8 1/2 CTRS.	16	50	46
	11 PILES @ 3'-3 1/2 CTRS.	16	36	34	9 PILES @ 4'-1 1/2 CTRS.	18	44	41
213'-10	*13 PILES @ 2'-9 CTRS.	14	32	30	9 PILES @ 4'-1 1/2 CTRS.	16	46	43
	12 PILES @ 3'-0 CTRS.	16	35	33	9 PILES @ 4'-1 1/2 CTRS.	18	46	43
226'-4	*13 PILES @ 2'-9 CTRS.	14	33	31	9 PILES @ 4'-1 1/2 CTRS.	16	48	45
	12 PILES @ 3'-0 CTRS.	16	36	34	10 PILES @ 3'-8 CTRS.	18	43	41
243'-0	13 PILES @ 2'-9 CTRS.	16	35	33	9 PILES @ 4'-1 1/2 CTRS.	16	50	47
					10 PILES @ 3'-8 CTRS.	18	45	42

(1) SEE STANDARD PIOA FOR "K" DIMENSION.
(2) CONCRETE QUANTITIES SHOWN HAVE HAD THE VOLUME OF EMBEDDED PILES DEDUCTED FOR TYPES 1 AND 2 BASED ON 0.8 FT^3 PER FOOT OF EMBEDMENT. THE CONCRETE QUANTITIES FOR TYPE 3 PILES DO NOT REQUIRE REDUCTION FOR PILE EMBEDMENT.
(3) FOR ESTIMATING PILE LENGTHS AND FOR DETERMINING ACTUAL PILE LENGTHS IN FIELD.
(4) SEE SHEET H24-31-06 FOR STEP REINFORCING STEEL QUANTITY AND DETAILS.
* TYPE 2 ONLY.

PILE BENT NOTES:

THESE PIER BENTS ARE DESIGNED FOR USE WITH STANDARD H24-06 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES IN LOCATIONS WHERE ICE AND DRIFT CONDITIONS ARE NOT SEVERE.
PIER PILES ARE TO BE DRIVEN TO THE DESIGN BEARING VALUE W/O IMPACT.
FOR DETAILS OF TRESTLE PILES, TYPES 1, 2 AND 3, SEE STANDARD PIOA.
DETAILS SHOWN FOR CONCRETE PILES. FOR ORIENTATION OF STEEL PILES, SEE STANDARD PIOA.
MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN STANDARD FOR THREE SPAN BRIDGE
PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES
HL93 SUPERSTRUCTURE DECEMBER 2006 HS25 SUBSTRUCTURE

PILE BENT DETAILS
45° SKEW

H24-45-06