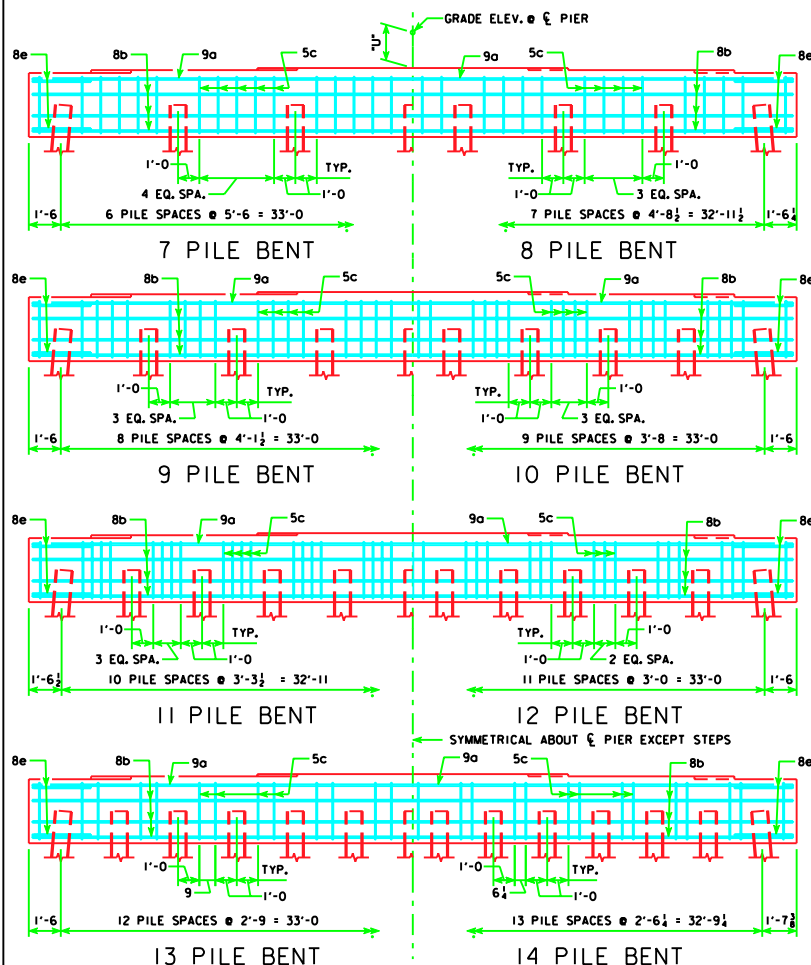
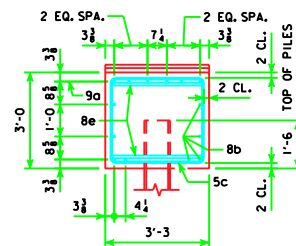


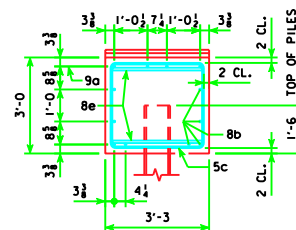
TYPICAL PLAN



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 ϕ PIER.
SEE SHEET H30-22-06 FOR "U" DIMENSION.



VIEW A-A
FOR 7, 8, 9, 10 & 11 PILE BENTS



VIEW A-A
FOR 12, 13 & 14 PILE BENTS

PILE BENT NOTES:

THESE PIER BENTS ARE DESIGNED FOR USE WITH STANDARD H30-06 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.

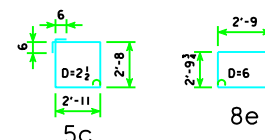
FOR DETAILS OF TRESTLE PILES, TYPES 1, 2 AND 3, SEE STANDARD P10A.

DETAILS SHOWN FOR CONCRETE PILES. FOR ORIENTATION OF STEEL PILES,
SEE STANDARD P10A.

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.

REINFORCING BAR LIST AND ESTIMATED QUANTITIES - PER PILE BENT

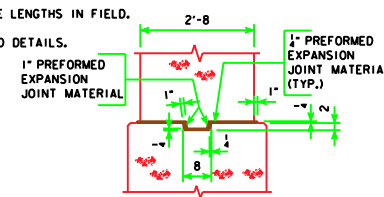
		7 PILE BENT	8 PILE BENT	9 PILE BENT	10 PILE BENT	11 PILE BENT	12 PILE BENT	13 PILE BENT
BAR	SHAPE	NO. LENGTH WEIGHT	NO. LENGTH WEIGHT	NO. LENGTH WEIGHT	NO. LENGTH WEIGHT	NO. LENGTH WEIGHT	NO. LENGTH WEIGHT	NO. LENGTH WEIGHT
9a		6 35'-8 728	6 35'-8 728	6 35'-8 728	6 35'-8 728	6 35'-8 728	4 35'-8 485	4 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	8 35'-8 762
5c		32 12'-2 406	30 12'-2 381	34 12'-2 431	38 12'-2 482	42 12'-2 533	35 12'-2 444	26 12'-2 330
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 8'-4 89
(4) REINFORCING STEEL (LB.)		1985	1960	2010	2061	2112	1780	1666
STRUCTURAL CONCRETE (CY)	PILE TYPE	----- 1, 2 3	----- 1, 2 3	13.3 13.7	13.3 13.7	13.2 13.7	13.2 13.7	13.1 -----



FRICTION BEARING PILING

6-6 ABUTMENT BEARING	PIOA TYPE 1 OR 2				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	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	11 PILES @ 3'-3½ CTRS. 9 PILES @ 4'-1½ CTRS.	14 16	29 35	26 32	7 PILES @ 5'-6 CTRS. 7 PILES @ 5'-6 CTRS.	16 18	45 45	41 41
151'-4	11 PILES @ 3'-3½ CTRS. 10 PILES @ 3'-8 CTRS.	14 16	30 33	28 31	7 PILES @ 5'-6 CTRS. 8 PILES @ 4'-8½ CTRS.	18 16	47 41	43 38
163'-10	12 PILES @ 3'-0 CTRS. 10 PILES @ 3'-8 CTRS.	14 16	30 36	28 33	8 PILES @ 4'-8½ CTRS. 8 PILES @ 4'-8½ CTRS.	16 18	45 45	42 42
176'-4	13 PILES @ 2'-9 CTRS. 11 PILES @ 3'-3½ CTRS.	14 16	29 34	27 32	8 PILES @ 4'-8½ CTRS. 9 PILES @ 4'-1½ CTRS.	16 18	47 42	44 39
188'-10	14 PILES @ 2'-6½ CTRS. 11 PILES @ 3'-3½ CTRS.	14 16	28 36	27 35	8 PILES @ 4'-8½ CTRS. 9 PILES @ 4'-1½ CTRS.	16 18	49 44	46 41
201'-4	14 PILES @ 2'-6½ CTRS. 13 PILES @ 2'-9 CTRS.	14 16	32 35	31 33	9 PILES @ 4'-1½ CTRS. 10 PILES @ 3'-8 CTRS.	16 18	50 45	47 43
213'-10	13 PILES @ 2'-9 CTRS.	16	36	34	10 PILES @ 3'-8 CTRS. 11 PILES @ 3'-3½ CTRS.	16 18	47 43	45 41
226'-4	14 PILES @ 2'-9½ CTRS.	16	35	33	10 PILES @ 3'-8 CTRS. 11 PILES @ 3'-3½ CTRS.	16 18	49 45	47 42
243'-0	14 PILES @ 2'-6½ CTRS.	16	37	35	11 PILES @ 3'-3½ CTRS. 12 PILES @ 3'-0 CTRS.	18 16	47 43	44 41

- ① SEE STANDARD P10A FOR "K" DIMENSION.
- ② CONCRETE QUANTITIES SHOWN HAVE HAD THE VOLUME OF EMBEDDED PILES DEDUCTED FOR TYPES 1 AND 2 BASED ON 0.8 FT³ 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 H30-24-06 FOR STEP REINFORCING STEEL QUANTITY AND DETAILS.
- * TYPE 2 ONLY. 1" PREFORMED 2'-8" 1" PREFORMED EXPANSION JOINT WATER



KEYED NOTCH DETAIL



Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 30' ROADWAY, THREE SPAN BRIDGES
PRETENSIONED PRESTRESSED
CONCRETE BEAM BRIDGES

HL93 SUPERSTRUCTURE DECEMBER, 2006

HS25 SUBSTRUCTURE

PILE BENT DETAILS

H30-47-06

LATEST REVISION DATE

Norman L. Mc Donald

Norman E. Mc Donald