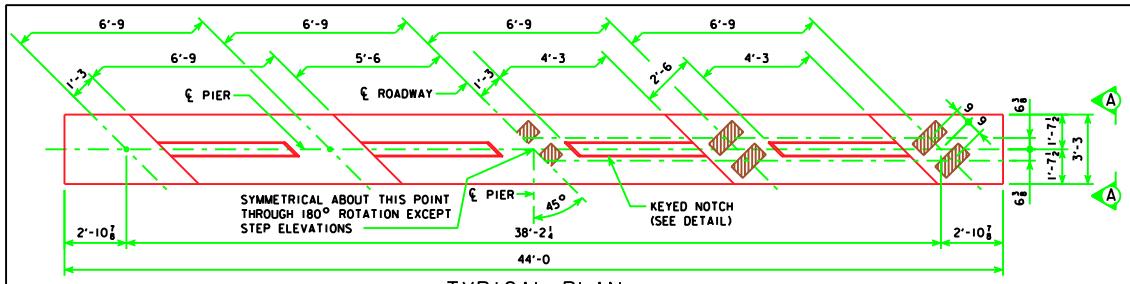
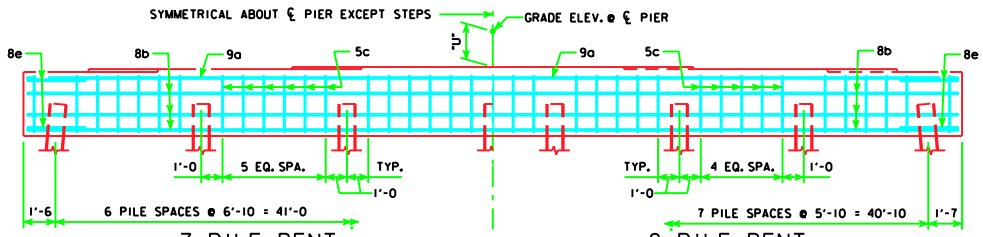


TYPICAL PLAN

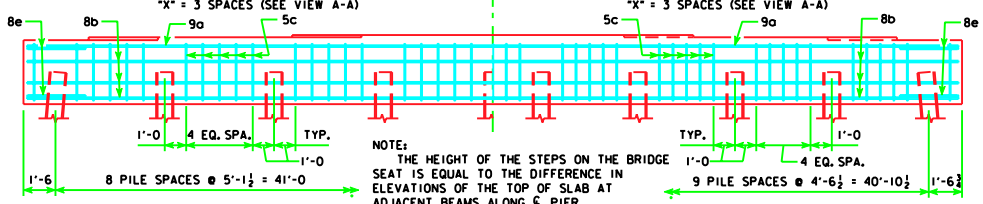


7 PILE BENT

"X" = 3 SPACES (SEE VIEW A-A)

8 PILE BENT

"X" = 3 SPACES (SEE VIEW A-A)



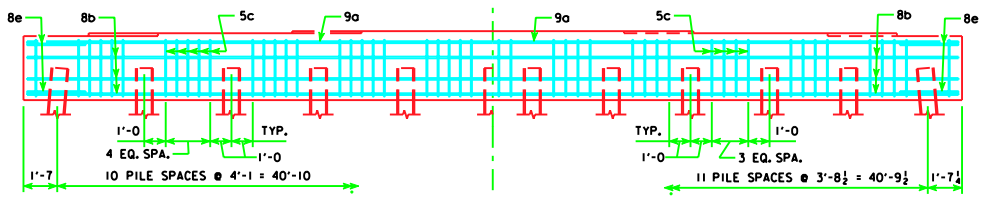
NOTE:
THE HEIGHT OF THE STEPS ON THE BRIDGE SEAT IS EQUAL TO THE DIFFERENCE IN ELEVATIONS OF THE TOP OF SLAB AT ADJACENT BEAMS ALONG ℄ PIER.
SEE SHEET H30-29-06 FOR "U" DIMENSION.

9 PILE BENT

"X" = 2 SPACES (SEE VIEW A-A)

10 PILE BENT

"X" = 2 SPACES (SEE VIEW A-A)

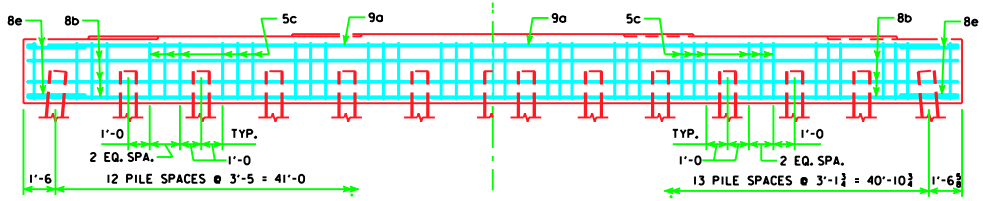


11 PILE BENT

"X" = 2 SPACES (SEE VIEW A-A)

12 PILE BENT

"X" = 2 SPACES (SEE VIEW A-A)



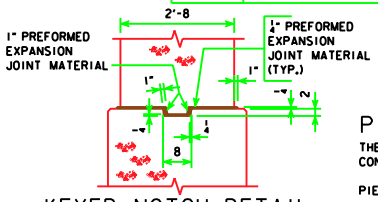
13 PILE BENT

"X" = 1 SPACE (SEE VIEW A-A)

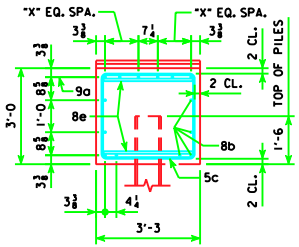
14 PILE BENT

"X" = 1 SPACE (SEE VIEW A-A)

* TYPE 2 ONLY.



KEYED NOTCH DETAIL



VIEW A-A

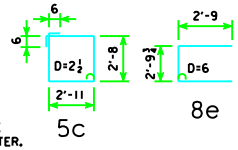
(SEE ELEVATION VIEWS FOR "X")
(2 EQUAL SPACES SHOWN)

REINFORCING BAR LIST AND ESTIMATED QUANTITIES - PER PILE BENT

BAR	SHAPE	7 PILE BENT NO.	LENGTH	WEIGHT	8 PILE BENT NO.	LENGTH	WEIGHT	9 PILE BENT NO.	LENGTH	WEIGHT	10 PILE BENT NO.	LENGTH	WEIGHT	11 PILE BENT NO.	LENGTH	WEIGHT	12 PILE BENT NO.	LENGTH	WEIGHT
9a		8	43'-8	1188	8	43'-8	1188	6	43'-8	891	6	43'-8	891	6	43'-8	891	6	43'-8	891
8b		8	43'-8	933	8	43'-8	933	8	43'-8	933	8	43'-8	933	8	43'-8	933	8	43'-8	933
5c		38	12'-2	482	37	12'-2	470	42	12'-2	533	47	12'-2	596	52	12'-2	660	46	12'-2	584
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.)		2692			2680			2446			2509			2573			2497		
STRUCTURAL (2) CONCRETE (CY)	PILE TYPE 1, 2	-----			-----			-----			16.4			16.4			16.3		
	PILE TYPE 3	16.9			16.9			16.9			16.9			16.9			16.9		

BAR	SHAPE	13 PILE BENT NO.	LENGTH	WEIGHT	14 PILE BENT NO.	LENGTH	WEIGHT
9a		4	43'-8	594	4	43'-8	594
8b		8	43'-8	933	8	43'-8	933
5c		38	12'-2	482	41	12'-2	520
8e		4	8'-4	89	4	8'-4	89
(4) REINFORCING STEEL (LB.)		2098			2136		
STRUCTURAL (2) CONCRETE (CY)	PILE TYPE 1, 2	16.3			16.2		
	PILE TYPE 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	11 PILES @ 4'-1 CTRS.	14	30	28	7 PILES @ 6'-10 CTRS.	16	47	43
	10 PILES @ 4'-6½ CTRS.	16	33	31	8 PILES @ 5'-10 CTRS.	18	41	38
151'-4	12 PILES @ 3'-8½ CTRS.	14	29	27	7 PILES @ 6'-10 CTRS.	16	49	45
	10 PILES @ 4'-6½ CTRS.	16	34	32	8 PILES @ 5'-10 CTRS.	18	43	40
163'-10	13 PILES @ 3'-5 CTRS.	14	29	27	8 PILES @ 5'-10 CTRS.	16	47	44
	11 PILES @ 4'-1 CTRS.	16	34	32	9 PILES @ 5'-1½ CTRS.	18	42	39
176'-4	13 PILES @ 3'-5 CTRS.	14	30	29	8 PILES @ 5'-10 CTRS.	16	49	46
	11 PILES @ 4'-1 CTRS.	16	36	34	9 PILES @ 5'-1½ CTRS.	18	44	41
188'-10	*13 PILES @ 3'-5 CTRS.	14	32	30	9 PILES @ 5'-1½ CTRS.	16	46	43
	12 PILES @ 3'-8½ CTRS.	16	34	32	9 PILES @ 5'-1½ CTRS.	18	46	43
201'-4	13 PILES @ 3'-5 CTRS.	16	36	34	10 PILES @ 4'-6½ CTRS.	16	47	44
					11 PILES @ 4'-1 CTRS.	18	43	40
213'-10	14 PILES @ 3'-1¾ CTRS.	16	35	33	10 PILES @ 4'-6½ CTRS.	16	49	46
					11 PILES @ 4'-1 CTRS.	18	44	42
226'-4	*14 PILES @ 3'-1¾ CTRS.	16	37	35	11 PILES @ 4'-1 CTRS.	16	46	44
					11 PILES @ 4'-1 CTRS.	18	46	44
243'-0	*14 PILES @ 3'-1¾ CTRS.	16	38	36	11 PILES @ 4'-1 CTRS.	16	48	46
					12 PILES @ 3'-8½ CTRS.	18	44	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 H30-31-06 FOR STEP REINFORCING STEEL QUANTITY AND DETAILS.

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 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 - 30' ROADWAY, THREE SPAN BRIDGES

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

HL93 SUPERSTRUCTURE DECEMBER, 2006 HS25 SUBSTRUCTURE

PILE BENT DETAILS
45° SKEW

H30-48-06