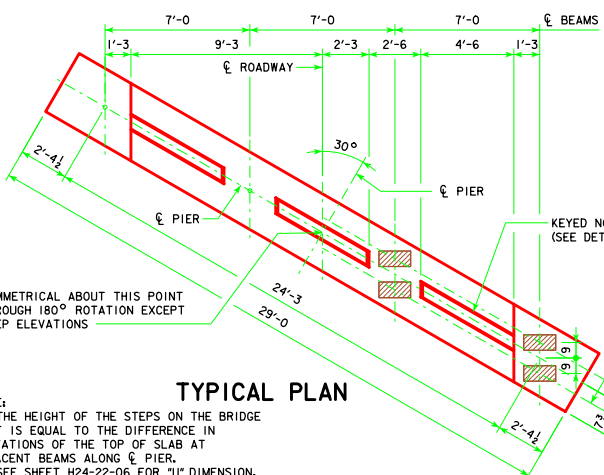


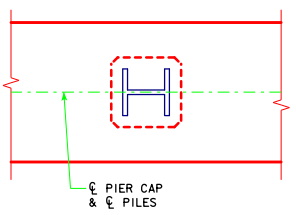
REVISED: 05-13 - REVISION FOR LRFD PILE DESIGN.



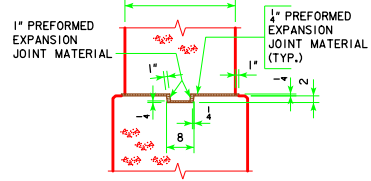
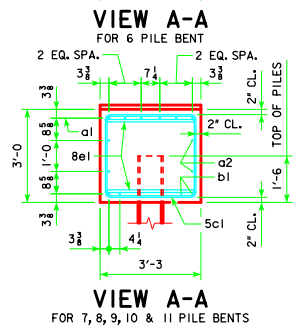
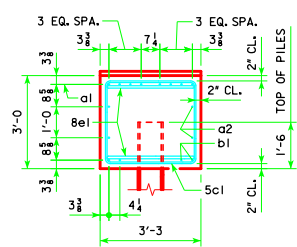
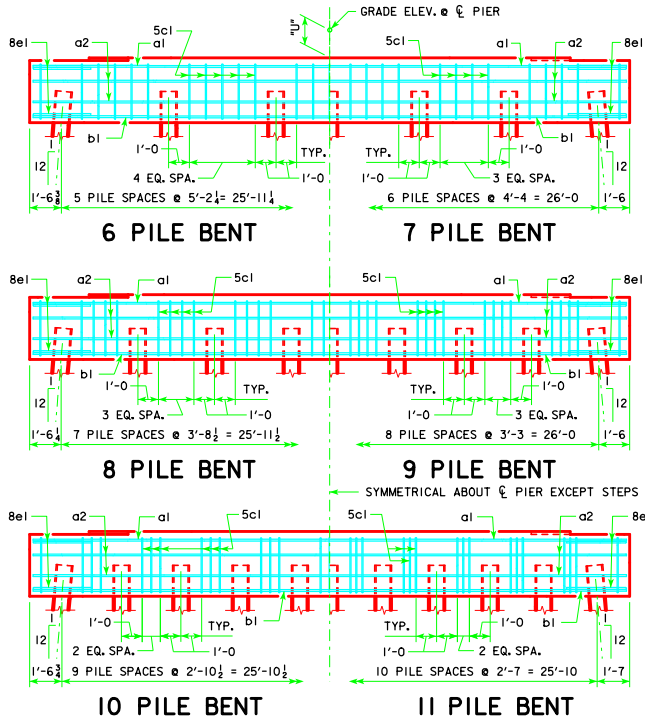
PILE BENT NOTES:
 THESE PIER BENTS ARE DESIGNED FOR USE IN LOCATIONS WHERE ICE AND DRIFT CONDITIONS ARE NOT SEVERE.
 FOR DETAILS OF TRESTLE PILES, TYPES 1, 2 AND 3, SEE STANDARD PIOL.
 MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.
 PIER PILES SHALL BE DRIVEN TO VALUES SHOWN IN DESIGN PLANS.

SYMMETRICAL ABOUT THIS POINT THROUGH 180° ROTATION EXCEPT STEP ELEVATIONS

TYPICAL PLAN



PILE ORIENTATION DETAIL FOR TYPE 3 TRESTLE BENT PILES

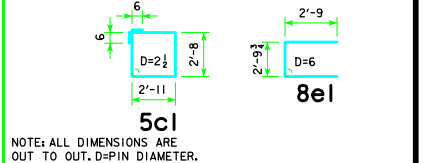


KEYED NOTCH DETAIL

REINFORCING BAR LIST AND ESTIMATED QUANTITIES - PER PILE BENT

BAR	LENGTH	SHAPE	6 PILE BENT			7 PILE BENT			8 PILE BENT			9 PILE BENT			10 PILE BENT			11 PILE BENT		
			NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT
a1	28'-8"		8	9	780	6	9	585	6	9	585	6	9	585	6	9	585	6	9	585
a2	28'-8"		4	8	306	4	8	306	4	8	306	4	8	306	4	8	306	4	8	306
b1	28'-8"		4	9	390	4	9	390	4	9	390	4	9	390	4	9	390	4	9	390
b2	12'-2"		27	5	343	26	5	330	30	5	381	34	5	431	29	5	368	32	5	406
5c1	8'-4"		4	8	89	4	8	89	4	8	89	4	8	89	4	8	89	4	8	89
① REINFORCING STEEL (L.B.)			1908			1700			1751			1801			1654			1692		
STRUCTURAL CONCRETE (CY)			②			---			10.5			10.4			10.4			10.3		
			1, 2			---			10.8			10.8			10.8			10.8		
			3			---			---			---			---			---		

BENT BAR DETAILS



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

ABUTMENT BEARING	PIOL TYPE 1 OR 2			PIOL TYPE 3		
	NUMBER OF TRESTLE PILES	③ *K* (INCHES)	④ LRFD P _u STRENGTH I, DES. LOAD (KIPS)	NUMBER OF TRESTLE PILES	PILE SIZE	④ LRFD P _u STRENGTH I, DES. LOAD (KIPS)
138'-10"	---	---	---	6	HP10x57	145
151'-4"	---	---	---	7	HP12x53	124
163'-10"	---	---	---	7	HP10x57	130
176'-4"	---	---	---	7	HP12x53	130
188'-10"	---	---	---	8	HP10x57	140
201'-4"	---	---	---	8	HP12x53	123
213'-10"	---	---	---	8	HP10x57	128
226'-4"	---	---	---	8	HP12x53	128
243'-0"	---	---	---	8	HP10x57	134
				8	HP12x53	134
				9	HP10x57	131
				9	HP12x53	131
				9	HP10x57	138
				10	HP12x53	124
				9	HP10x57	145
				10	HP12x53	131
				10	HP10x57	138
				11	HP12x53	125

- SEE SHEET H24-24-06 FOR STEP REINFORCING STEEL QUANTITIES AND DETAILS.
- 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.
- SEE STANDARD PIOL FOR *K* DIMENSION.
- NOTE: P_u STRENGTH I DESIGN LOAD (KIPS) IS NOT THE VALUE USED IN THE FIELD FOR DRIVING PILES.

NOTE: FRICTION BEARING INCLUDES SIDE FRICTION AND END BEARING IN SOIL. POINT BEARING INCLUDES SIDE FRICTION AND POINT BEARING IN ROCK.

LATEST REVISION DATE
05-13

APPROVED BY BRIDGE ENGINEER
Thomas E. McQuill

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 24' ROADWAY, THREE SPAN BRIDGE

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

DECEMBER, 2006

PILE BENT PIERS

30° SKEW

H24-46-06