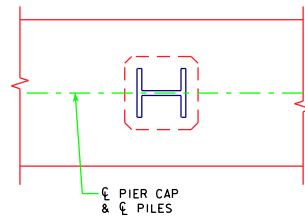


PILE BENT NOTES:

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.

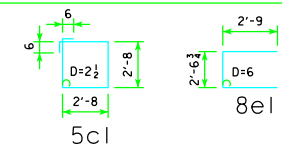


PILE ORIENTATION DETAIL FOR
TYPE 3 TRESTLE BENT PILES

REINFORCING BAR LIST AND ESTIMATED QUANTITIES - PER PILE BENT

BAR	LENGTH	SHAPE	11 PILE BENT			13 PILE BENT			15 PILE BENT			17 PILE BENT			19 PILE BENT			21 PILE BENT			23 PILE BENT		
			NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT
a1	57'-8"		8	9	1569	8	9	1569	8	9	1569	6	9	1176	6	9	1176	4	9	784	4	9	784
a2	57'-8"		4	8	616	4	8	616	4	8	616	4	8	616	4	8	616	4	8	616	4	8	616
b1	57'-8"		4	9	784	4	9	784	4	9	784	4	9	784	4	9	784	4	9	784	4	9	784
5c1	11'-8"		72	5	876	86	5	1046	100	5	1217	98	5	1192	92	5	1119	82	5	998	68	5	827
8e1	8'-1"		4	8	86	4	8	86	4	8	86	4	8	86	4	8	86	4	8	86	4	8	86
① REINFORCING STEEL (LB.)			3931			4101			4272			3854			3781			3268			3097		
② PILE TYPE			-----			20.4			20.3			20.2			20.1			20.0			19.9		
STRUCTURAL CONCRETE (CY)			3			20.9			20.9			20.9			20.9			-----			-----		

BENT BAR DETAILS



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

E-E ABUTMENT BEARING	FRICTION BEARING PILING				FRICTION OR POINT BEARING PILING			
	PIOL TYPE 1 OR 2				PIOL TYPE 3			
	NUMBER OF TRESTLE PILES	③ "K" (INCHES)	④ DES. PILE BRG. (TONS)	⑤ LRFD DES. BRG. (KIPS)	NUMBER OF TRESTLE PILES	PILE SIZE	④ DES. PILE BRG. (TONS)	⑤ LRFD DES. BRG. (KIPS)
160'-0"	13	14	33	94	11	HP10x57	38	112
	13	16	33	94	11	HP12x53	38	112
180'-0"	15	14	31	89	11	HP10x57	42	122
	13	16	35	103	11	HP12x53	42	122
200'-0"	17	14	29	85	11	HP10x57	45	131
	15	16	33	96	11	HP12x53	45	131
220'-0"	17	14	32	93	11	HP10x57	49	143
	15	16	36	105	13	HP12x53	42	121
240'-0"	19	14	31	91	13	HP10x57	46	133
	17	16	35	101	13	HP12x53	46	133
260'-0"	21	14	31	89	13	HP10x57	49	143
	19	16	34	98	15	HP12x53	43	124
280'-0"	23	14	30	87	15	HP10x57	46	133
	19	16	36	105	15	HP12x53	46	133
300'-0"	23	14	32	93	15	HP10x57	49	143
	21	16	35	102	17	HP12x53	44	126
320'-0"	21	16	38	109	17	HP10x57	46	135
					19	HP12x53	42	120
340'-0"	23	16	36	105	17	HP10x57	49	142
					19	HP12x53	44	127

- SEE SHEET RS40-169-10 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.
- FOR DETERMINING ACTUAL PILE LENGTHS IN FIELD.
- FOR ESTIMATING PILE LENGTHS USING AASHTO LRFD SPECIFICATIONS.

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

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER
Thomas L. McDaniel



Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES
ROLLED STEEL BEAM BRIDGES

JUNE, 2010

PILE BENT PIERS

45° SKEW

RS40-113-10