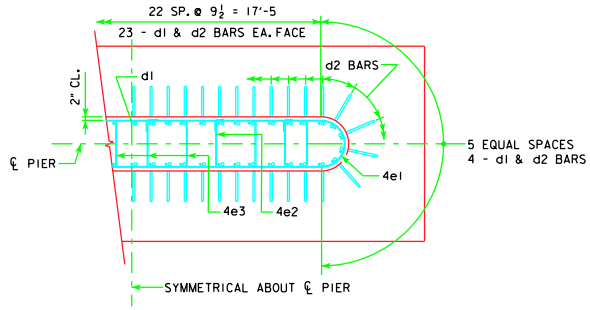
H IN FT.	℄ - ℄ ABUT. BRG.	PILING (HP10x57) NO. & LAYOUT	(1) DES. BRG. (TONS)	(2) LRFD DES. BRG. (KIPS)	FOOTING SIZE
16 TO 18	160'-0	16A	48	139	4' x 9' x 24'
	180'-0	17A	50	144	
	200'-0	18A	50	145	4' x 10' x 24'
	220'-0	18D	50	144	4' x 11' x 28'
	240'-0	20A	50	144	
	260'-0	21B	50	143	4' x 11' x 30'
	280'-0	23A	50	143	
	300'-0	23B	50	146	4' x 12' x 32'
	320'-0	25A	50	144	
	340'-0	26A	50	146	
19 TO 21	160'-0	16B	49	142	4' x 10' x 24'
	180'-0	17B	50	146	
	200'-0	18B	50	146	4' x 10' x 26'
	220'-0	19A	50	143	4' x 11' x 28'
	240'-0	21A	50	143	
	260'-0	21B	50	146	4' x 11' x 30'
	280'-0	23A	50	146	
	300'-0	24B	50	143	4' x 12' x 32'
	320'-0	25A	50	147	
	340'-0	26B	49	142	4' x 14' x 32'
22 TO 24	160'-0	16C	50	143	4' x 10' x 26'
	180'-0	17C	50	147	
	200'-0	18D	49	140	4' x 11' x 28'
	220'-0	19A	50	146	
	240'-0	21A	50	146	
	260'-0	22A	50	143	4' x 11' x 30'
	280'-0	23B	50	143	4' x 12' x 32'
	300'-0	24B	50	145	
	320'-0	25B	50	143	4' x 14' x 32'
	340'-0	26B	50	144	
25 TO 27	160'-0	16D	50	145	4' x 11' x 26'
	180'-0	18C	50	143	
	200'-0	18D	50	143	4' x 11' x 28'
	220'-0	20A	50	143	
	240'-0	21B	49	142	4' x 11' x 30'
	260'-0	22A	50	146	
	280'-0	23B	50	145	4' x 12' x 32'
	300'-0	25A	50	144	
	320'-0	25B	50	145	4' x 14' x 32'
	340'-0	26B	50	146	
28 TO 30	160'-0	17D	50	143	4' x 11' x 26'
	180'-0	18C	50	146	
	200'-0	18D	50	146	4' x 11' x 28'
	220'-0	20A	50	146	
	240'-0	21B	50	145	4' x 11' x 30'
	260'-0	23A	50	144	
	280'-0	24B	49	141	4' x 12' x 32'
	300'-0	25A	50	145	
	320'-0	26B	49	142	4' x 14' x 32'
	340'-0	27A	50	144	
31 TO 33	160'-0	17D	50	146	4' x 11' x 26'
	180'-0	18D	49	141	
	200'-0	19A	50	144	4' x 11' x 28'
	220'-0	21A	50	144	
	240'-0	22A	49	141	4' x 11' x 30'
	260'-0	23A	50	146	
	280'-0	24B	50	143	4' x 12' x 32'
	300'-0	26A	50	143	
	320'-0	26B	50	143	4' x 14' x 32'
	340'-0	27A	50	146	
34 TO 36	160'-0	17E	50	144	4' x 11' x 28'
	180'-0	18D	50	144	
	200'-0	19A	50	147	
	220'-0	21A	50	146	
	240'-0	22A	50	144	4' x 11' x 30'
	260'-0	24A	50	144	
	280'-0	24B	50	145	4' x 12' x 32'
	300'-0	26A	50	145	
	320'-0	26B	50	145	4' x 14' x 32'
	340'-0	28A	50	143	

H IN FT.	℄ - ℄ ABUT. BRG.	PILING (HP10x57) NO. & LAYOUT	(1) DES. BRG. (TONS)	(2) LRFD DES. BRG. (KIPS)	FOOTING SIZE
37 TO 40	160'-0	18D	48	139	4' x 11' x 28'
	180'-0	19A	49	142	
	200'-0	20A	50	144	
	220'-0	21B	49	142	4' x 11' x 30'
	240'-0	22A	50	146	
	260'-0	24A	50	147	
	280'-0	25A	50	143	4' x 12' x 32'
	300'-0	26A	50	147	
	320'-0	26B	50	147	4' x 14' x 32'
	340'-0	28A	50	145	

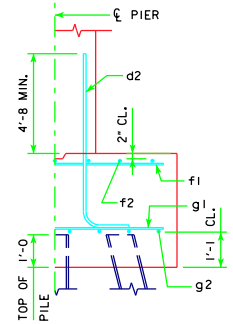
FOOTING SIZE	REINFORCING STEEL (ONE FOOTING) BAR	NO., SIZE & SPACING	LENGTH	WEIGHT (LB.)	TOTAL WEIGHT (LB.)	STRUCTURAL CONCRETE (CY)
4' x 9' x 24'	d2	54 - #9 AS SHOWN	9'-1	1668	2818	32.0
	f1	24 - #5 @ 1'-0	8'-8	217		
	f2	9 - #5 @ 1'-0	23'-8	222		
	g1	30 - #6 @ 0'-9½	8'-8	391		
	g2	9 - #6 @ 1'-0	23'-8	320		
4' x 10' x 24'	d2	54 - #9 AS SHOWN	9'-1	1668	3085	35.6
	f1	24 - #5 @ 1'-0	9'-8	242		
	f2	10 - #5 @ 1'-0	23'-8	247		
	g1	29 - #7 @ 0'-10	9'-8	573		
	g2	10 - #6 @ 1'-0	23'-8	355		
4' x 10' x 26'	d2	54 - #9 AS SHOWN	9'-1	1668	3453	38.5
	f1	26 - #5 @ 1'-0	9'-8	262		
	f2	10 - #5 @ 1'-0	25'-8	268		
	g1	29 - #7 @ 0'-10½	9'-8	573		
	g2	13 - #7 @ 0'-9½	25'-8	682		
4' x 11' x 26'	d2	54 - #9 AS SHOWN	9'-1	1668	3702	42.4
	f1	26 - #5 @ 1'-0	10'-8	289		
	f2	11 - #5 @ 1'-0	25'-8	294		
	g1	27 - #8 @ 0'-11½	10'-8	769		
	g2	13 - #7 @ 0'-10½	25'-8	682		
4' x 11' x 28'	d2	54 - #9 AS SHOWN	9'-1	1668	4288	45.6
	f1	28 - #5 @ 1'-0	10'-8	312		
	f2	11 - #5 @ 1'-0	27'-8	317		
	g1	31 - #8 @ 0'-11	10'-8	883		
	g2	15 - #8 @ 0'-9	27'-8	1108		
4' x 11' x 30'	d2	54 - #9 AS SHOWN	9'-1	1668	4842	48.9
	f1	30 - #5 @ 1'-0	10'-8	334		
	f2	11 - #5 @ 1'-0	29'-8	340		
	g1	30 - #9 @ 1'-0	10'-8	1088		
	g2	14 - #9 @ 0'-9½	29'-8	1412		
4' x 12' x 32'	d2	54 - #9 AS SHOWN	9'-1	1668	6004	56.9
	f1	32 - #5 @ 1'-0	11'-8	389		
	f2	12 - #5 @ 1'-0	31'-8	396		
	g1	38 - #9 @ 0'-10	11'-8	1507		
	g2	15 - #10 @ 0'-9½	31'-8	2044		
4' x 14' x 32'	d2	54 - #9 AS SHOWN	9'-1	1668	6987	66.4
	f1	32 - #5 @ 1'-0	13'-8	456		
	f2	14 - #5 @ 1'-0	31'-8	462		
	g1	39 - #9 @ 0'-9½	13'-8	1812		
	g2	19 - #10 @ 0'-9	31'-8	2589		

(1) FOR DETERMINING ACTUAL PILE LENGTHS IN FIELD.

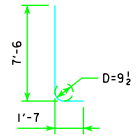
(2) FOR ESTIMATING PILE LENGTHS USING AASHTO LRFD SPECIFICATIONS.



d2 BAR LAYOUT
(SEE SECTION A-A ON SHEET RS40-126-10.)



TYPICAL SECTION



d2

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

FOOTING NOTES:

THESE FOOTINGS ARE DESIGNED AND DETAILED TO BE USED WITH THE CAP AND COLUMN DETAILS OF THE TEE PIERS AS SHOWN ON SHEET RS40-126-10.

BATTER PILES IN EXTERIOR ROWS 1:4 IN THE DIRECTION SHOWN.

STEEL PILING USED AS POINT BEARING SHALL HAVE A MINIMUM DISTANCE OF APPROXIMATELY 10 FEET FROM BOTTOM OF FOOTING TO TOP OF BEARING ROCK. THE PILE LAYOUTS ARE SUCH THAT THE DISTANCE CENTER TO CENTER OF ADJACENT PILING SHALL NOT EXCEED 8'-0.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES

ROLLED STEEL BEAM BRIDGES

JUNE, 2010

TEE PIER - 50 TON
STEEL PILE FOOTINGS
10° SKEW - SHEET 1

RS40-128-10