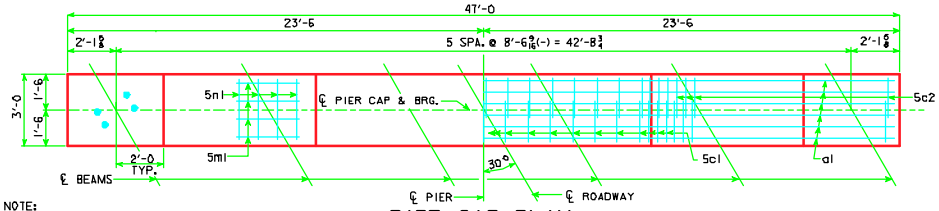
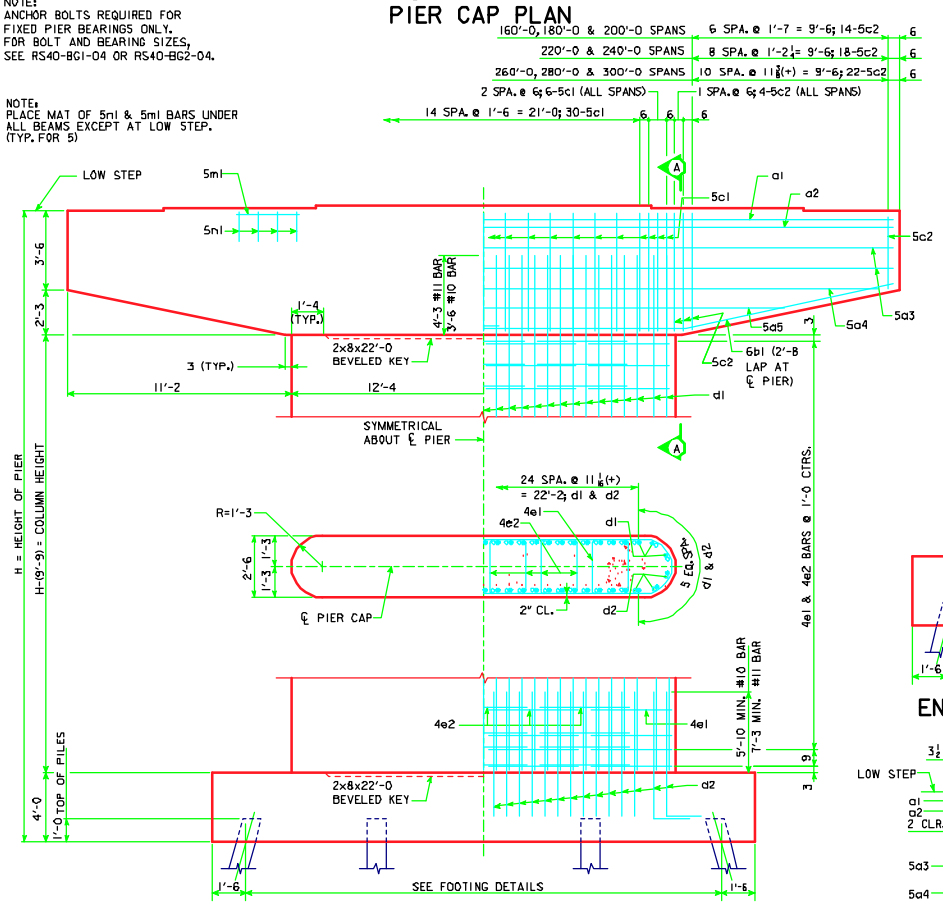


PIER CAP PLAN

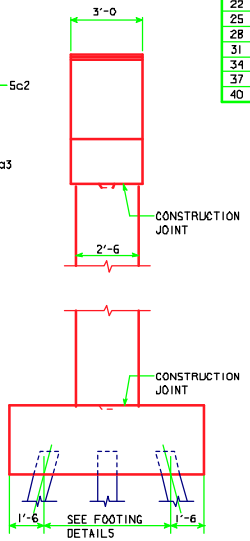
NOTE:
ANCHOR BOLTS REQUIRED FOR FIXED PIER BEARINGS ONLY. FOR BOLT AND BEARING SIZES, SEE RS40-BG1-04 OR RS40-BG2-04.

NOTE:
PLACE MAT OF 5n1 & 5m1 BARS UNDER ALL BEAMS EXCEPT AT LOW STEP. (TYP. FOR 5)

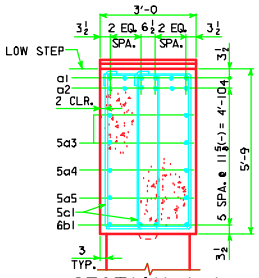


PIER ELEVATION

STEP 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.



END ELEVATION



SECTION A-A

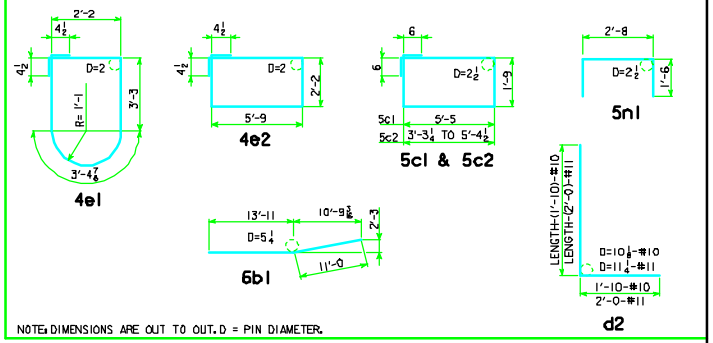
ONE CAP

REINFORCING STEEL	℄-℄ ABUT. BEARINGS		160'-0			180'-0			200'-0			220'-0			240'-0			260'-0			280'-0			300'-0		
BAR	LENGTH	SHAPE	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT
a1	46'-8		6	8	748	6	9	952	6	9	952	6	9	952	6	10	1205	6	10	1205	6	10	1205	6	11	1488
a2	46'-8		6	8	748	6	8	748	6	9	952	6	9	952	6	9	952	6	10	1205	6	10	1205	6	10	1205
a3	46'-8		4	5	195	4	5	195	4	5	195	4	5	195	4	5	195	4	5	195	4	5	195	4	5	195
a4	45'-0		2	5	94	2	5	94	2	5	94	2	5	94	2	5	94	2	5	94	2	5	94	2	5	94
a5	35'-6		2	5	74	2	5	74	2	5	74	2	5	74	2	5	74	2	5	74	2	5	74	2	5	74
b1	24'-11		8	6	299	8	6	299	8	6	299	8	6	299	8	6	299	8	6	299	8	6	299	8	6	299
c1	15'-4		42	5	672	42	5	672	42	5	672	42	5	672	42	5	672	42	5	672	42	5	672	42	5	672
c2	Varies		36	5	506	36	5	506	36	5	506	44	5	615	44	5	615	52	5	723	52	5	723	52	5	723
n1	5'-8		20	5	118	20	5	118	20	5	118	20	5	118	20	5	118	20	5	118	20	5	118	20	5	118
m1	2'-10		20	5	59	20	5	59	20	5	59	20	5	59	20	5	59	20	5	59	20	5	59	20	5	59
TOTAL LB.					3513			3717			3921			4040			4283			4644			4644			4927
STRUCTURAL CONCRETE (C.Y.)			28.3			28.3			28.3			28.3			28.3			28.3			28.3			28.3		

ONE COLUMN

H IN FEET	COLUMN HEIGHT	STRUCTURAL CONCRETE C.Y.	REINFORCING STEEL d1 BAR				d2 BAR				4e1 BAR				4e2 BAR				TOTAL WEIGHT LB.
			NO.	SIZE	LENGTH	WEIGHT	NO.	SIZE	LENGTH	WEIGHT	NO.	SIZE	LENGTH	WEIGHT	NO.	SIZE	LENGTH	WEIGHT	
16	6'-3	14.0	-	-	-	-	58	10	14'-6	3619	14	4	12'-10	120	35	4	16'-7	388	4127
19	9'-3	20.7	-	-	-	-	58	10	17'-6	4368	20	4	12'-10	171	50	4	16'-7	554	5093
22	12'-3	27.4	58	10	15'-9	3931	58	10	10'-7	2641	26	4	12'-10	223	65	4	16'-7	720	7515
25	15'-3	34.1	58	10	18'-9	4680	58	10	10'-7	2641	32	4	12'-10	274	80	4	16'-7	886	8481
28	18'-3	40.8	58	11	22'-6	6933	58	11	12'-2	3749	38	4	12'-10	326	95	4	16'-7	1052	12,060
31	21'-3	47.5	58	11	25'-6	7858	58	11	12'-2	3749	44	4	12'-10	377	110	4	16'-7	1219	13,204
34	24'-3	54.2	58	11	28'-6	8782	58	11	12'-2	3749	50	4	12'-10	429	125	4	16'-7	1385	14,345
37	27'-3	60.9	58	11	31'-6	9707	58	11	12'-2	3749	56	4	12'-10	480	140	4	16'-7	1551	15,487
40	30'-3	67.6	58	11	34'-6	10,631	58	11	12'-2	3749	62	4	12'-10	532	155	4	16'-7	1717	16,629

BENT BAR DETAILS



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

NOTE:
CAP STRUCTURAL CONCRETE QUANTITIES BASED ON 1 3/4 INCH STEP HEIGHT.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES

ROLLED STEEL BEAM BRIDGES

FEBRUARY, 2004

T PIER 30° SKEW
CAP & COLUMN DETAILS

RS40-PRI3-04