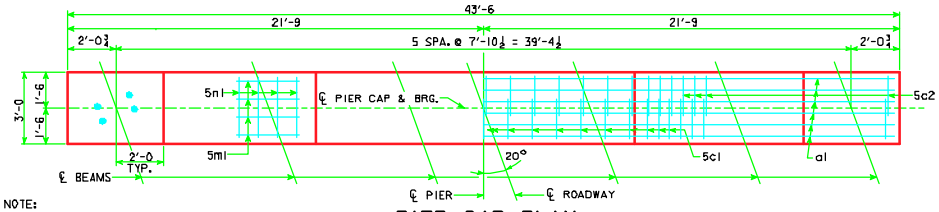
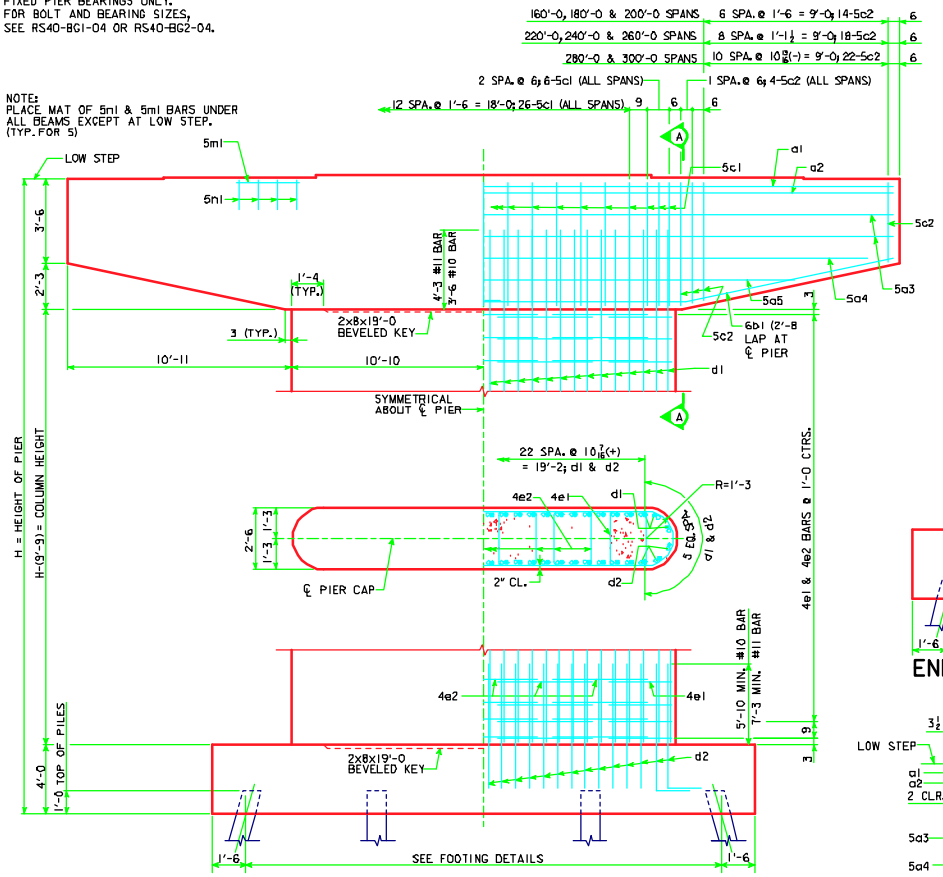


NOTE:
ANCHOR BOLTS REQUIRED FOR FIXED PIER BEARINGS ONLY. FOR BOLT AND BEARING SIZES, SEE RS40-BG1-04 OR RS40-BG2-04.

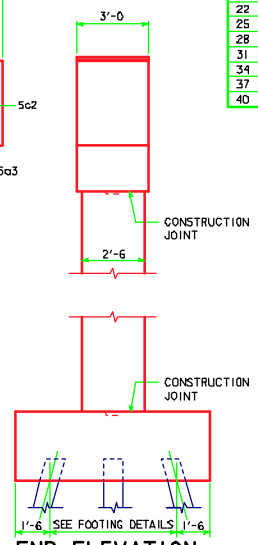
PIER CAP PLAN

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

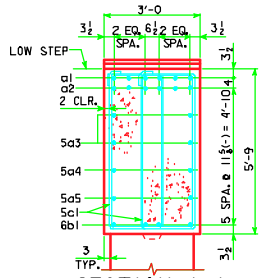


PIER ELEVATION

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

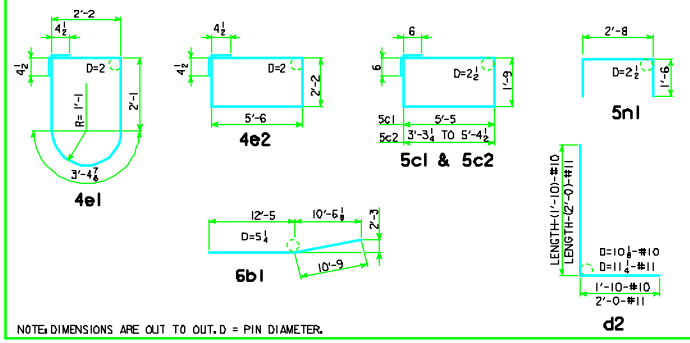
ONE CAP

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	43'-2		6	8	692	6	9	881	6	9	881	6	9	881	6	10	1114	6	10	1114	6	10	1114	6	11	1376
a2	43'-2		6	8	692	6	8	692	6	9	881	6	9	881	6	9	881	6	10	1114	6	10	1114	6	10	1114
a3	43'-2		4	5	180	4	5	180	4	5	180	4	5	180	4	5	180	4	5	180	4	5	180	4	5	180
a4	41'-6		2	5	87	2	5	87	2	5	87	2	5	87	2	5	87	2	5	87	2	5	87	2	5	87
a5	32'-3		2	5	67	2	5	67	2	5	67	2	5	67	2	5	67	2	5	67	2	5	67	2	5	67
b1	23'-2		8	6	278	8	6	278	8	6	278	8	6	278	8	6	278	8	6	278	8	6	278	8	6	278
c1	15'-4		38	5	608	38	5	608	38	5	608	38	5	608	38	5	608	38	5	608	38	5	608	38	5	608
c2	VARIES		36	5	506	36	5	506	36	5	506	44	5	615	44	5	615	44	5	615	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.					3287			3476			3665			3774			4007			4240			4348			4610
STRUCTURAL CONCRETE (C.Y.)			26.0			26.0			26.0			26.0			26.0			26.0			26.0			26.0		

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	12.2	-	-	-	-	54	10	14'-6	3369	14	4	10'-6	98	35	4	16'-1	376	3843
19	9'-3	18.1	-	-	-	-	54	10	17'-6	4066	20	4	10'-6	140	50	4	16'-1	537	4743
22	12'-3	24.0	54	10	15'-9	3660	54	10	10'-7	2459	26	4	10'-6	182	65	4	16'-1	698	6999
25	15'-3	29.8	54	10	18'-9	4357	54	10	10'-7	2459	32	4	10'-6	224	80	4	16'-1	859	7899
28	18'-3	35.7	54	11	22'-6	6455	54	11	12'-2	3491	38	4	10'-6	267	95	4	16'-1	1021	11,234
31	21'-3	41.6	54	11	25'-6	7316	54	11	12'-2	3491	44	4	10'-6	309	110	4	16'-1	1182	12,298
34	24'-3	47.4	54	11	28'-6	8177	54	11	12'-2	3491	50	4	10'-6	351	125	4	16'-1	1343	13,362
37	27'-3	53.3	54	11	31'-6	9047	54	11	12'-2	3491	56	4	10'-6	393	140	4	16'-1	1504	14,425
40	30'-3	59.2	54	11	34'-6	9898	54	11	12'-2	3491	62	4	10'-6	435	155	4	16'-1	1665	15,489

BENT BAR DETAILS



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

NOTE:
CAP STRUCTURAL CONCRETE QUANTITIES BASED ON 1¾ 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 20° SKEW
CAP & COLUMN DETAILS

RS40-PR9-04