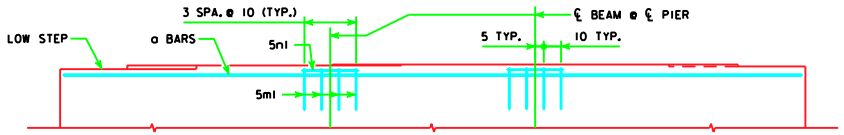
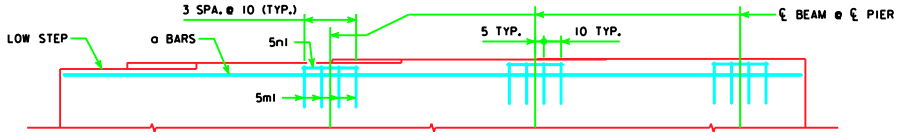


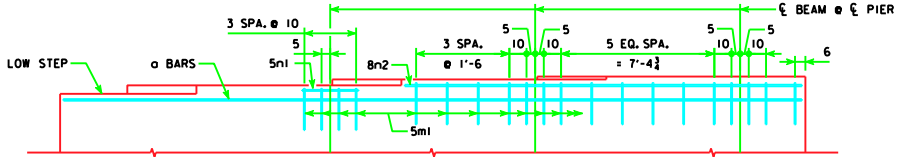
PART ELEVATION VIEW OF PIER CAP

GRADE (G): G <= 0.6%



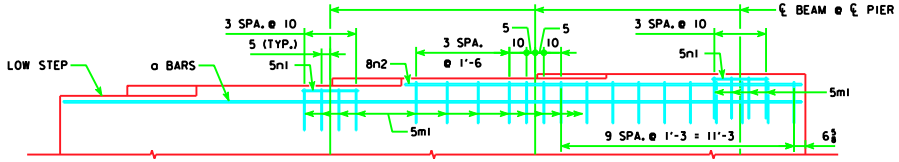
PART ELEVATION VIEW OF PIER CAP

GRADE (G): 0.6% < G <= 2.3%



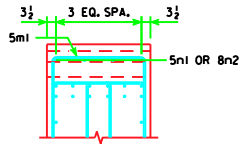
PART ELEVATION VIEW OF PIER CAP

GRADE (G): 2.3% < G <= 4.0%



PART ELEVATION VIEW OF PIER CAP

GRADE (G): 4.0% < G <= 5.0%



TYPICAL SECTION

STEP REINFORCING BAR LIST
ONE TEE PIER

			G <= 0.6%			0.6% < G <= 2.3%			2.3% < G <= 4.0%			4.0% < G <= 5.0%		
BAR	LENGTH	SHAPE	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT
5m1	7'-0		8	5	58	12	5	88	20	5	146	24	5	175
5n1	2'-8		8	5	22	12	5	33	4	5	11	8	5	22
*8n2	VARIES		--	--	--	--	--	--	4	8	221	4	8	221
TOTAL (LB.)					80			121			378			418

G = GRADE (%)

*8n2 BARS VARY FROM 19'-4 TO 22'-1

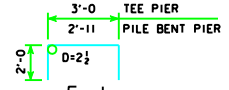
STEP REINFORCING BAR LIST
ONE PILE BENT PIER

			G <= 0.6%			0.6% < G <= 2.3%			2.3% < G <= 4.0%			4.0% < G <= 5.0%		
BAR	LENGTH	SHAPE	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT
5m1	6'-11		8	5	58	12	5	87	20	5	144	24	5	173
5n1	2'-8		8	5	22	12	5	33	4	5	11	8	5	22
*8n2	VARIES		--	--	--	--	--	--	4	8	221	4	8	221
TOTAL (LB.)					80			120			376			416

G = GRADE (%)

*8n2 BARS VARY FROM 19'-4 TO 22'-0

BENT BAR DETAILS



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

NOTES:

THE TABLE BELOW LISTS THE ADDITIONAL CONCRETE VOLUME REQUIRED IN EACH ABUTMENT FOOTING/PIER CAP BASED ON THE ROADWAY GRADE AT EACH ABUTMENT FOOTING/PIER CAP. ADDITIONAL CONCRETE SHOULD BE ADDED TO THE PLANS FOR EACH ABUTMENT FOOTING/PIER CAP THAT HAS 0.5 CU. YDS. OR MORE OF ADDITIONAL CONCRETE. VALUES IN THE TABLE BELOW HAVE BEEN EXCLUDED FOR SCENARIOS THAT HAVE LESS THAN 0.5 CU. YDS. OF ADDITIONAL CONCRETE PER SUBSTRUCTURE UNIT. VALUES MAY BE INTERPOLATED FOR GRADES BETWEEN THE VALUES SHOWN IN THE TABLE.

ADDITIONAL CONCRETE VOLUME PER SUBSTRUCTURE UNIT (C.Y.)

	ROADWAY GRADE AT SUBSTRUCTURE UNIT				
	1%	2%	3%	4%	5%
EACH ABUTMENT FOOTING					
A, B BEAMS	-----	0.8	1.2	1.7	2.1
C BEAMS	-----	1.0	1.5	2.1	2.6
EACH TEE PIER CAP - ALL BEAMS	-----	0.8	1.4	1.9	2.5
EACH PILE BENT PIER - ALL BEAMS	-----	0.8	1.4	1.9	2.4

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 24' ROADWAY, THREE SPAN BRIDGE

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

HL93 SUPERSTRUCTURE DECEMBER, 2006 HS25 SUBSTRUCTURE

ADDITIONAL QUANTITIES
45° SKEW

H24-31-06