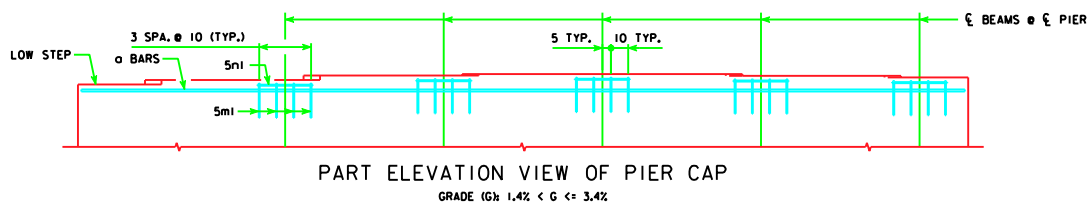
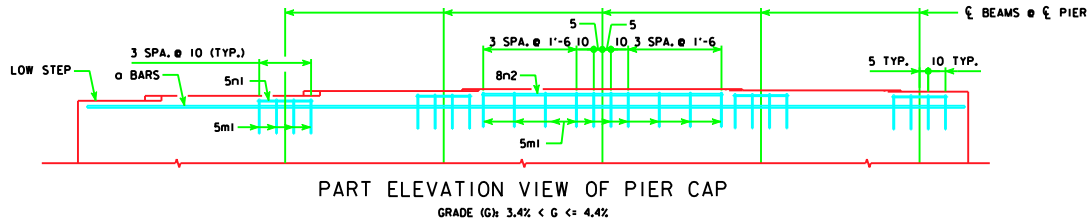


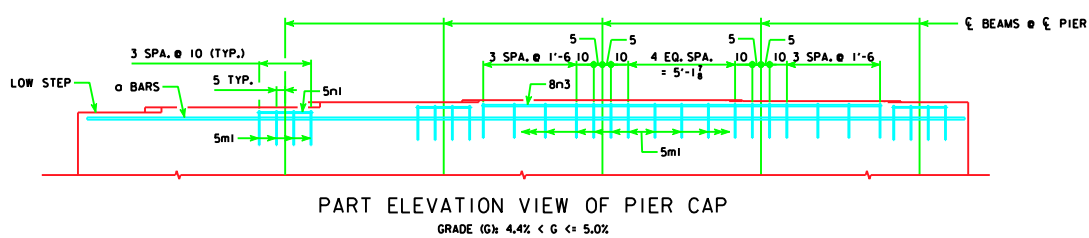
PART ELEVATION VIEW OF PIER CAP
GRADE (G) ≤ 1.4%



PART ELEVATION VIEW OF PIER CAP
GRADE (G) 1.4% < G ≤ 3.4%



PART ELEVATION VIEW OF PIER CAP
GRADE (G) 3.4% < G ≤ 4.4%



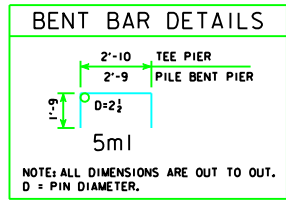
PART ELEVATION VIEW OF PIER CAP
GRADE (G) 4.4% < G ≤ 5.0%

STEP REINFORCING BAR LIST ONE TEE PIER														
BAR	LENGTH	SHAPE	G ≤ 1.4%			1.4% < G ≤ 3.4%			3.4% < G ≤ 4.4%			4.4% < G ≤ 5.0%		
			NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT
5m1	6'-4		16	5	106	20	5	132	26	5	172	29	5	192
5n1	2'-8		16	5	45	20	5	56	16	5	45	12	5	33
8n2	12'-4		--	--	--	--	--	--	4	8	132	--	--	--
8n3	20'-0		--	--	--	--	--	--	--	--	--	4	8	214
TOTAL (L.B.)					151			188			349			439

G = GRADE (%)

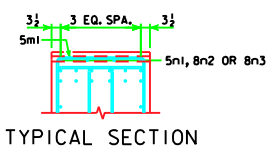
STEP REINFORCING BAR LIST ONE PILE BENT PIER														
BAR	LENGTH	SHAPE	G ≤ 1.4%			1.4% < G ≤ 3.4%			3.4% < G ≤ 4.4%			4.4% < G ≤ 5.0%		
			NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT
5m1	6'-3		16	5	104	20	5	130	26	5	169	29	5	189
5n1	2'-8		16	5	45	20	5	56	16	5	45	12	5	33
8n2	12'-4		--	--	--	--	--	--	4	8	132	--	--	--
8n3	20'-0		--	--	--	--	--	--	--	--	--	4	8	214
TOTAL (L.B.)					149			186			346			436

G = GRADE (%)



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 SHOULD BE 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.



TYPICAL SECTION

	ROADWAY GRADE AT SUBSTRUCTURE UNIT				
	1%	2%	3%	4%	5%
EACH ABUTMENT FOOTING					
A, B BEAMS	-----	-----	0.7	0.9	1.1
C BEAMS	-----	0.5	0.8	1.1	1.4
EACH TEE PIER CAP - ALL BEAMS	--	--	0.7	0.9	1.2
EACH PILE BENT PIER - ALL BEAMS	--	--	0.7	0.9	1.2

LATEST REVISION DATE	APPROVED BY BRIDGE ENGINEER <i>Thomas E. Mc Donnell</i>	Iowa Department of Transportation Highway Division	
		STANDARD DESIGN - 40' ROADWAY, THREE SPAN BRIDGE PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES	
		HL93 SUPERSTRUCTURE	DECEMBER, 2006
ADDITIONAL QUANTITIES 15° SKEW			H40-17-06