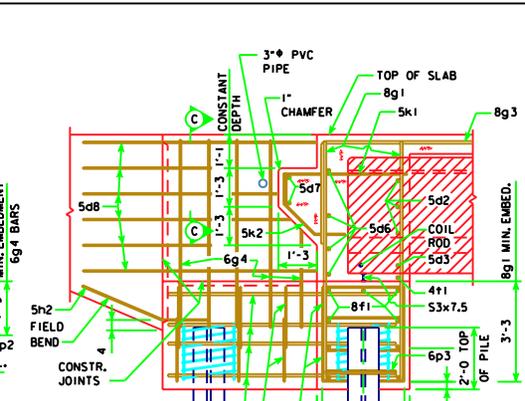


**PART REAR ELEVATION AT ABUTMENT**

NOTE: BARRIER RAIL AND WINGS NOT SHOWN.  
(SHOWN FOR SOLID BARRIER RAIL)



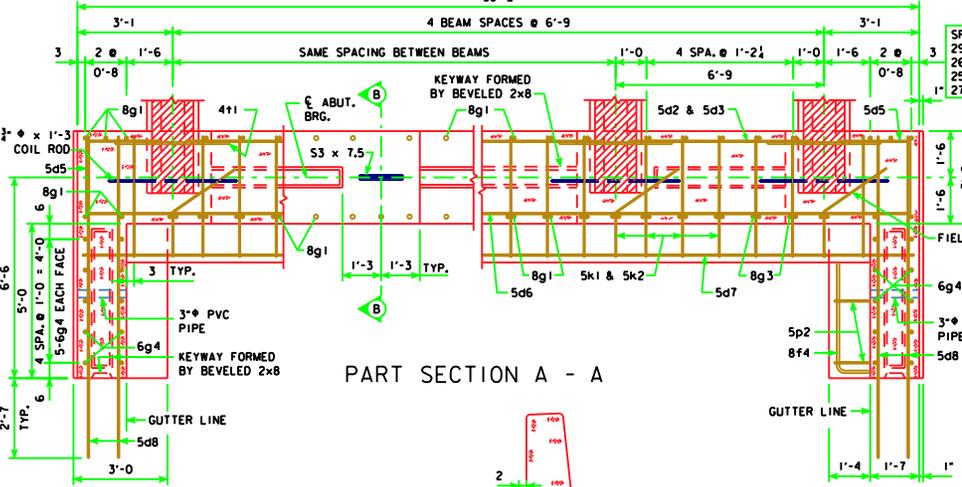
**PART SECTION B - B**

NOTE: THE SPIRAL AT THE TOP OF EACH PILE TO BE 7 TURNS OF NO. 2 BAR, 21\"/>

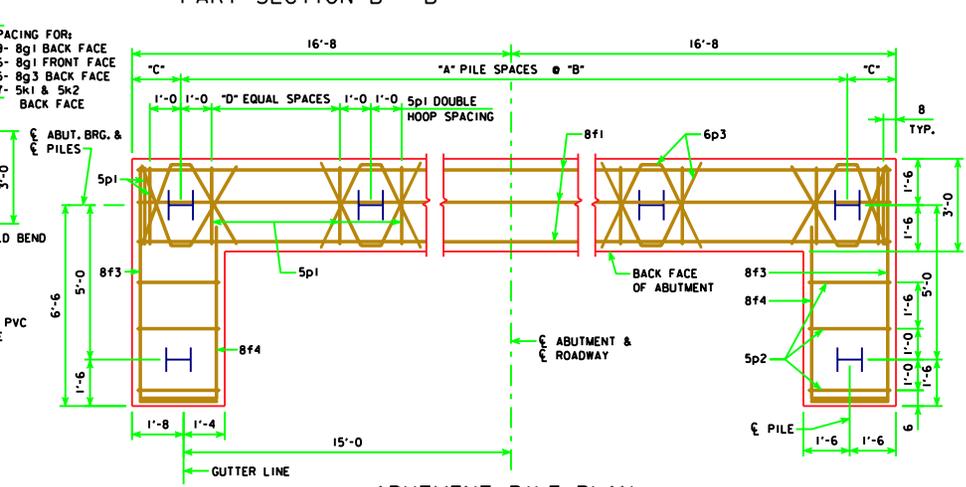
**ABUTMENT NOTES:**  
MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2\"/>

IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE COUNTY OR STATE.

ABUTMENT PILES ARE TO BE DRIVEN TO THE DESIGN BEARING VALUE AS GIVEN IN THE ABUTMENT PILE SPACING TABLE.



**PART SECTION A - A**



**ABUTMENT PILE PLAN**



**PART SECTION C-C**

NOTE: SEE BARRIER RAIL SHEET FOR DETAILS. REINFORCING BARS 5c3 AND 5c14 ARE INCLUDED IN SUPERSTRUCTURE QUANTITIES.

ABUTMENT PILE SPACING		ε-ε ABUT. BRG.	201'-4	213'-10	226'-4	243'-0
WITH STEEL H-PILES	"A" PILE SPACES		5	5	5	6
	"B" (FT. - IN.)		5'-9	5'-9	5'-9	4'-9
	"C" (FT. - IN.)		2'-3½	2'-3½	2'-3½	2'-5
	"D" EQUAL SPACES		3	3	3	3
	NO. OF PILES PER ABUT.		8	8	8	9
DESIGN PILE LOAD (TONS)			47	48	50	45

LATEST REVISION DATE  
*Thomas E. M. Small*  
APPROVED BY BRIDGE ENGINEER

**Iowa Department of Transportation**  
**Highway Division**

STANDARD DESIGN - 30' ROADWAY, THREE SPAN BRIDGES  
**PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES**

HL93 SUPERSTRUCTURE    DECEMBER, 2006    HS25 SUBSTRUCTURE

**ABUTMENT DETAILS**  
0° SKEW C BEAMS

**H30-06-06**