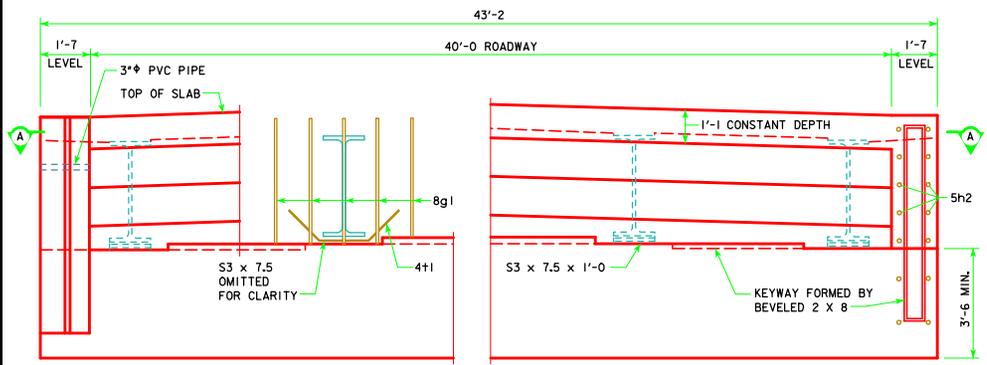
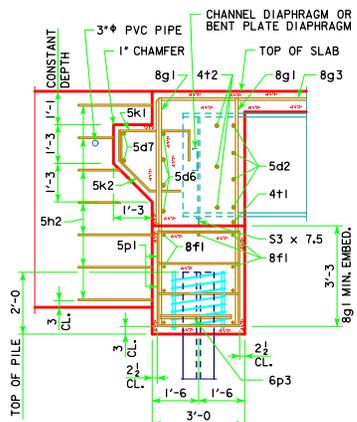


REVISED 05-13 - REVISION FOR LRFD PILE DESIGN.

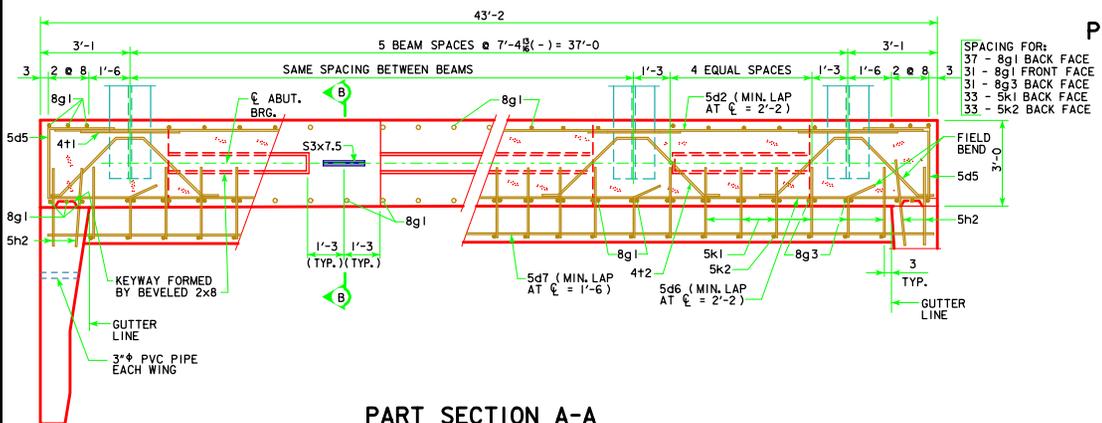


**PART REAR ELEVATION AT ABUTMENT**

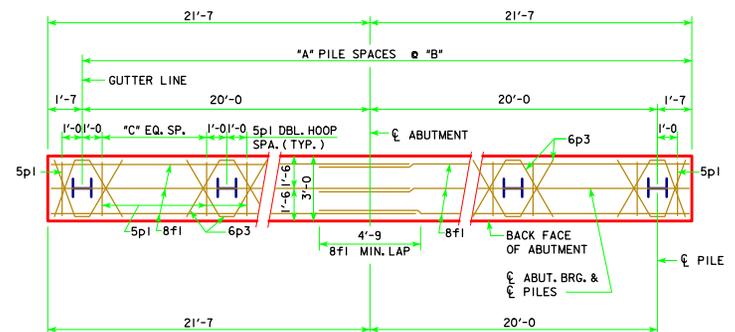


**PART SECTION B-B**

- NOTES:**
1. HOLES DRILLED THROUGH BEAM WEB FOR 5d2 AND 4t2 BARS.
  2. THE SPIRAL AT THE TOP OF EACH PILE TO BE 7 TURNS OF No. 2 BAR, 21\"/>



**PART SECTION A-A**



**ABUTMENT PILE PLAN**

**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 SHALL BE DRIVEN TO VALUES SHOWN IN DESIGN PLANS.
- PLACE 5h2 BAR AT 1:6 SLOPE TO MATCH TRAFFIC SIDE OF ABUTMENT WING FACE. (BOTH SIDES TYPICAL)
- BARRIER RAIL NOT SHOWN IN DETAILS.
- IF ROCK IS CLOSER THAN 15' BELOW ABUTMENT FOOTING, SPECIAL ANALYSIS MAY BE REQUIRED.

**ABUTMENT PILE SPACING**

DIMENSION OR NO.	℄ TO ℄ ABUTMENT BEARING								
	160'-0	180'-0	200'-0	220'-0	240'-0	260'-0	280'-0	300'-0	320'-0
"A"	7	7	7	8	8	8	9	9	9
"B" (FT-IN)	5'-8 1/2	5'-8 1/2	5'-8 1/2	5'-0	5'-0	5'-0	4'-5 1/2	4'-5 1/2	4'-5 1/2
"C" EQUAL SPACES	4	4	4	3	3	3	3	3	3
NO. OF PILES PER ABUT.	8	8	8	9	9	9	10	10	10
P <sub>U</sub> STRENGTH I DESIGN LOAD (KIPS)	131	137	144	132	137	143	131	136	137

NOTE: HP 10 x 57 STEEL BEARING PILING REQUIRED.  
 NOTE: P<sub>U</sub> STRENGTH I DESIGN LOAD (KIPS) IS NOT THE VALUE USED IN THE FIELD FOR DRIVING PILES.

NOTE:  
 ABUTMENT STEP DIAGRAM PROVIDED BY DESIGNER, SEE "ESTIMATED BRIDGE QUANTITIES" SHEET.

LATEST REVISION DATE  
 05-13  
 APPROVED BY BRIDGE ENGINEER  
*Thomas E. Mc Donald*


**Iowa Department of Transportation**  
 Highway Division  
 STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES  
**ROLLED STEEL BEAM BRIDGES**  
 JUNE, 2010

**ABUTMENT DETAILS**  
 0° SKEW

**RS40-007-10**