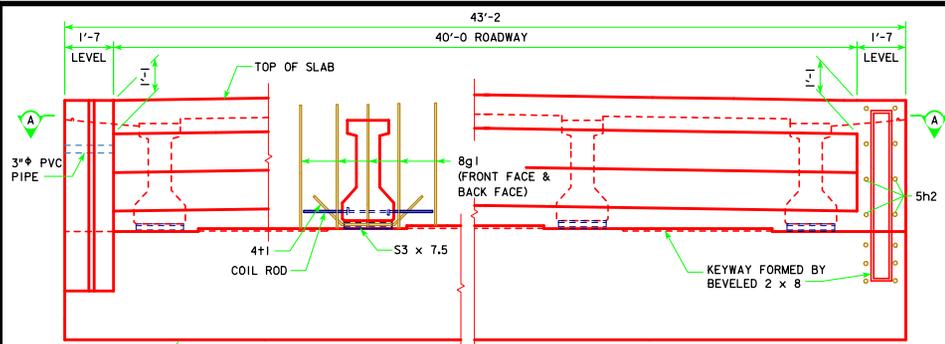
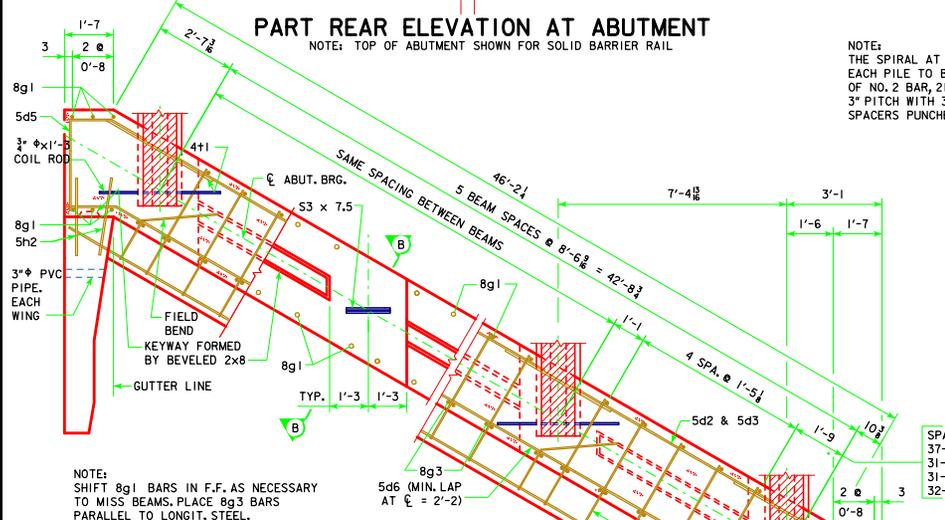


REVISED 05-13 - REVISION FOR LRFD PILE DESIGN.



**PART REAR ELEVATION AT ABUTMENT**  
NOTE: TOP OF ABUTMENT SHOWN FOR SOLID BARRIER RAIL

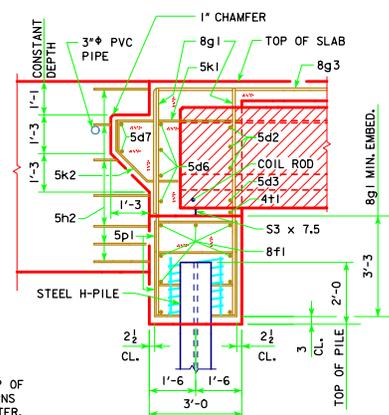


**PART SECTION A-A**

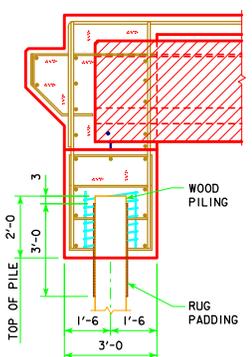
	ABUTMENT PILE SPACING					
	CL-CL ABUT. BRG.	138'-10"	151'-4"	163'-10"	176'-4"	188'-10"
WITH WOOD PILES	"A" PILE SPACES	14	14	15	16	16
	"B" (FT. - IN.)	3'-2"	3'-2"	2'-11"	2'-9"	2'-9"
	"C" (FT. - IN.)	2'-9 1/2"	2'-9 1/2"	3'-0 1/2"	2'-11 1/2"	2'-11 1/2"
	"D" EQUAL SPACES	1	1	1	1	1
	NO. OF PILES PER ABUT.	15	15	16	17	17
PU, STRENGTH I DESIGN LOAD (KIPS)		54	57	57	56	57
WITH STEEL H-PILES	"A" PILE SPACES	6	6	6	6	7
	"B" (FT. - IN.)	7'-5"	7'-5"	7'-5"	7'-5"	6'-4"
	"C" (FT. - IN.)	2'-8 1/2"	2'-8 1/2"	2'-8 1/2"	2'-8 1/2"	2'-9 1/2"
	"D" EQUAL SPACES	5	5	5	5	4
	NO. OF PILES PER ABUT.	7	7	7	7	8
PU, STRENGTH I DESIGN LOAD (KIPS)		127	132	141	146	132

NOTE: PU, STRENGTH I DESIGN LOAD (KIPS) IS NOT THE VALUE USED IN THE FIELD FOR DRIVING PILES.

NOTE: THE SPIRAL AT THE TOP OF EACH PILE TO BE 7 TURNS OF NO. 2 BAR, 21" DIAMETER, 3" PITCH WITH 3 - 1 1/4" x 1 1/4" SPACERS PUNCHED TO HOLD SPIRAL.

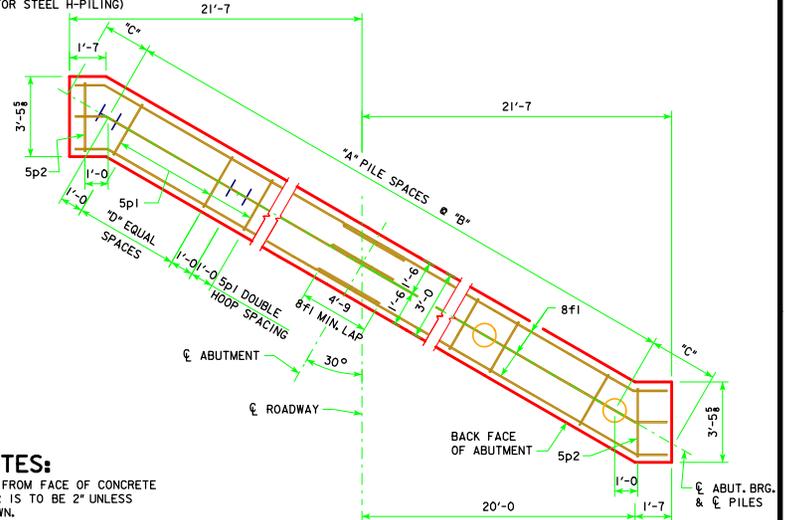


**PART SECTION B-B (FOR STEEL H-PIILING)**



**PART SECTION B-B (FOR WOOD PILING)**

**WOOD PILING NOTE:**  
AFTER PILES ARE CUT OFF, THE UPPER 3', EXCEPT AS SHOWN, IS TO BE WRAPPED WITH A DOUBLE THICKNESS OF RUG PADDING HELD IN PLACE BY TACKING WITH GALVANIZED ROOFING NAILS AND WRAPPED WITH #14 GAUGE GALVANIZED WIRE AT A 4" PITCH, CARE IS TO BE TAKEN NOT TO DAMAGE PADDING WHEN PLACING CONCRETE. RUG PADDING MAY BE EITHER OF THE FOLLOWING:  
(1) HAIR AND JUTE RUG PADDING, RUBBERIZED ON BOTH SIDES, AND WEIGHING NOT LESS THAN 47 OZ. PER SQ. YD.  
(2) BONDED URETHANE OR BONDED POLYFOAM WITH A MINIMUM DENSITY OF 5 LBS. PER CU. FT. AND SHALL BE AT LEAST 1/2 IN. THICK, (MATERIAL LESS THAN 1/2 IN. IN THICKNESS MAY BE USED, BUT WILL REQUIRE ADDITIONAL WRAPS FOR A TOTAL OF AT LEAST ONE INCH).



**ABUTMENT PILE PLAN**

**ABUTMENT NOTES:**  
MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

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.

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

**Iowa Department of Transportation**  
Highway Division

STANDARD DESIGN - 40' ROADWAY, THREE SPAN BRIDGE  
**PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES**  
AUGUST, 2009

**ABUTMENT DETAILS**  
30° SKEW A & B BEAMS

**H40-18-06**