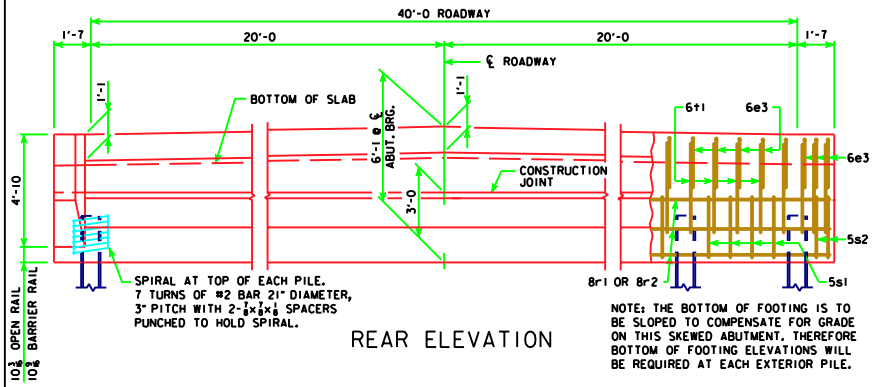
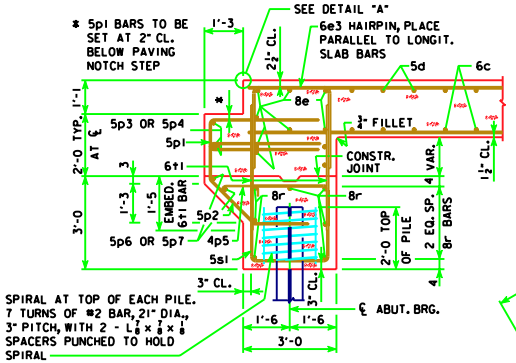
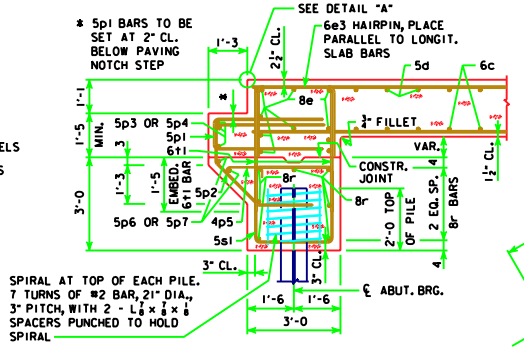


REAR ELEVATION

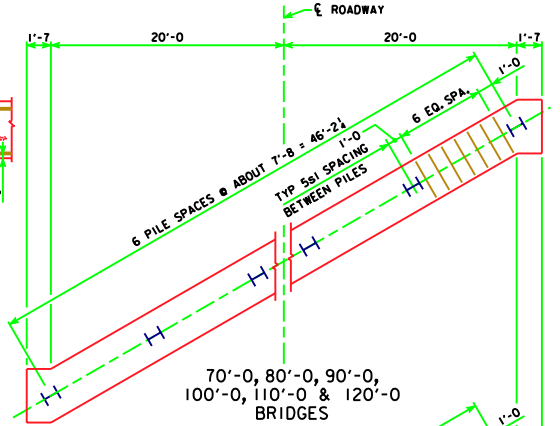
NOTE: THE BOTTOM OF FOOTING IS TO BE SLOPED TO COMPENSATE FOR GRADE ON THIS SKEWED ABUTMENT. THEREFORE BOTTOM OF FOOTING ELEVATIONS WILL BE REQUIRED AT EACH EXTERIOR PILE.



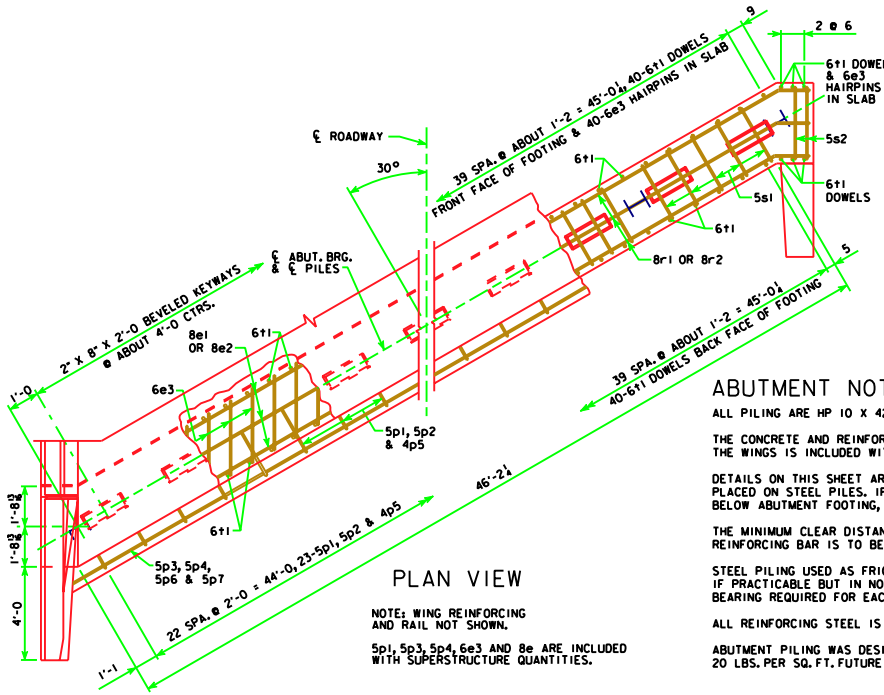
SECTION NORMAL TO ABUTMENT AT ℄



SECTION NORMAL TO ABUTMENT AT GUTTERLINE



PILE PLAN - 30° SKEW STEEL PILING



PLAN VIEW

NOTE: WING REINFORCING AND RAIL NOT SHOWN.

5p1, 5p3, 5p4, 6e3 AND 8e ARE INCLUDED WITH SUPERSTRUCTURE QUANTITIES.

ABUTMENT NOTES:

ALL PILING ARE HP 10 X 42.

THE CONCRETE AND REINFORCING STEEL FOR THE WINGS IS INCLUDED WITH THE SUPERSTRUCTURE.

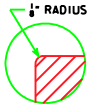
DETAILS ON THIS SHEET ARE TO BE USED ONLY WHEN ABUTMENTS ARE PLACED ON STEEL PILES. IF ROCK IS ENCOUNTERED CLOSER THAN 12' BELOW ABUTMENT FOOTING, SPECIAL ANALYSIS MAY BE REQUIRED.

THE MINIMUM CLEAR DISTANCE FROM THE FACE OF THE CONCRETE TO NEAR REINFORCING BAR IS TO BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.

STEEL PILING USED AS FRICTION PILE SHALL BE DRIVEN TO FULL PENETRATION IF PRACTICABLE BUT IN NO CASE TO A BEARING VALUE LESS THAN THE PILE BEARING REQUIRED FOR EACH BRIDGE LENGTH AS SHOWN ON THIS SHEET.

ALL REINFORCING STEEL IS TO BE GRADE 60.

ABUTMENT PILING WAS DESIGNED FOR HS25 LOADING WITH AN ALLOWANCE FOR 20 LBS. PER SQ. FT. FUTURE WEARING SURFACE.



DETAIL "A"

REACTION, PILE NUMBER & BEARING

BRIDGE LENGTH	70'-0	80'-0	90'-0	100'-0	110'-0	120'-0	130'-0	140'-0	150'-0
REACTION - KIPS	368	396	420	446	470	499	527	Δ 609	Δ 641
BEARING - TONS	27	29	30	32	34	36	30	34	36
PILING - NUMBER	7	7	7	7	7	7	9	9	9

ΔINCLUDES IMPACT

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES

CONTINUOUS CONCRETE SLAB BRIDGES

NOVEMBER, 2006

ABUTMENT DETAILS
30° SKEW - STEEL PILING

J40-41-06