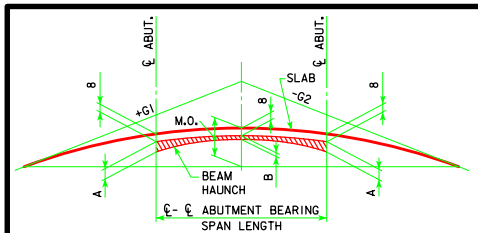
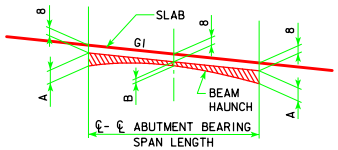


THICKNESS \ SPAN	46'-8	55'-0	67'-6	80'-0	90'-0	100'-0	110'-0
A	1 1/8	1 1/2	1 7/8	1 15/16	1 15/16	1 11/16	2 5/16
B	1/2	1/2	1/2	1/2	1/2	1/2	1/2

LENGTH OF VERTICAL CURVE REQUIRED = (20,000)(G1-G2)
M.O. = (G1-G2)(LENGTH OF V.C.)
8

(G1-G2) IS THE ALGEBRAIC DIFFERENCE OF THE APPROACH GRADES EXPRESSED IN DECIMAL FORM. G1 NEED NOT HAVE THE SAME VALUE AS G2. MAXIMUM VALUE OF G1 OR G2 IS 5%. LENGTH OF CURVE AND M.O. ARE IN FEET.

SLAB AND HAUNCH THICKNESS AT BEAMS FOR VERTICAL CURVE



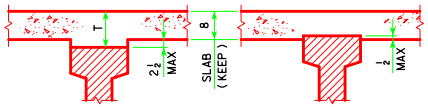
LENGTH OF S3 x 7.5
(ABUTMENT BEAM SEAT)

BEAM BOTTOM FLANGE WIDTH	LENGTH OF S3 x 7.5
1'-5	1'-3 1/2
1'-8	1'-6 1/2
1'-10	1'-8 1/2

THICKNESS \ SPAN	46'-8	55'-0	67'-6	80'-0	90'-0	100'-0	110'-0
A	1 5/16	1 3/4	2 3/16	1 15/16	1 13/16	2 7/16	3 1/4
B	1/2	1/2	1/2	1/2	1/2	1/2	1/2

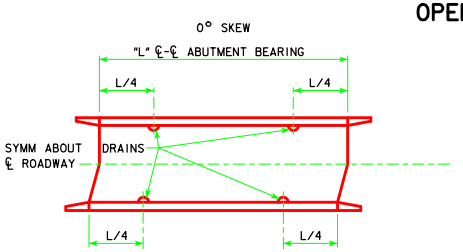
G1 MAY HAVE A + OR - SIGN. THE MINIMUM NUMERICAL VALUE OF THE GRADE IS 0.3% AND THE MAXIMUM VALUE IS 8%.

SLAB AND HAUNCH THICKNESS AT BEAMS FOR STRAIGHT GRADE



SLAB THICKNESS DETAIL

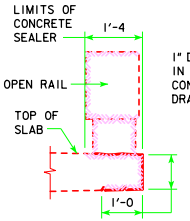
NOTE:
THE SLAB THICKNESS T AT THE BEAMS, (8" SLAB PLUS HAUNCH), IS BASED ON THE ANTICIPATED BEAM CAMBER REMAINING AFTER PLACING THE SLAB, BUT IS NOT GUARANTEED FOR CONSTRUCTION. IF BEAM IS UNDER CAMBERED INCREASE THE HAUNCH THICKNESS OVER THE BEAM AT THE MIDPOINT OF THE SPANS (POINT B). IF THE BEAM IS OVER CAMBERED DECREASE THE HAUNCH THICKNESS OVER THE BEAM AT THE MIDPOINT OF THE SPANS (POINT B) TO A MAXIMUM OF 1/2" EMBEDMENT IN THE SLAB. IF MORE THAN 1/2" EMBEDMENT IS REQUIRED OR IF THE HAUNCH EXCEEDS 2 1/2", THE GRADE LINE IS TO BE REVISED.



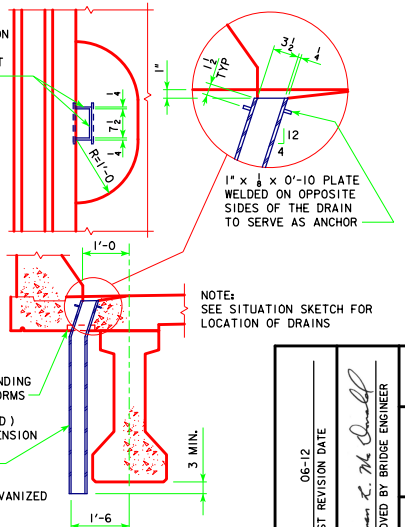
SITUATION SKETCH

CONCRETE SEALER SHALL BE APPLIED TO BOTH SIDES OF BRIDGE SLAB ON THE TOP, EDGE OF SLAB AND UNDER THE SLAB. THE CONCRETE SEALER SHALL ALSO BE APPLIED TO THE OPEN RAIL ON THE TOP, TRAFFIC FACE SIDE, BOTTOM OF RAIL, AND ON ALL SIDES OF THE OPEN RAIL POSTS.

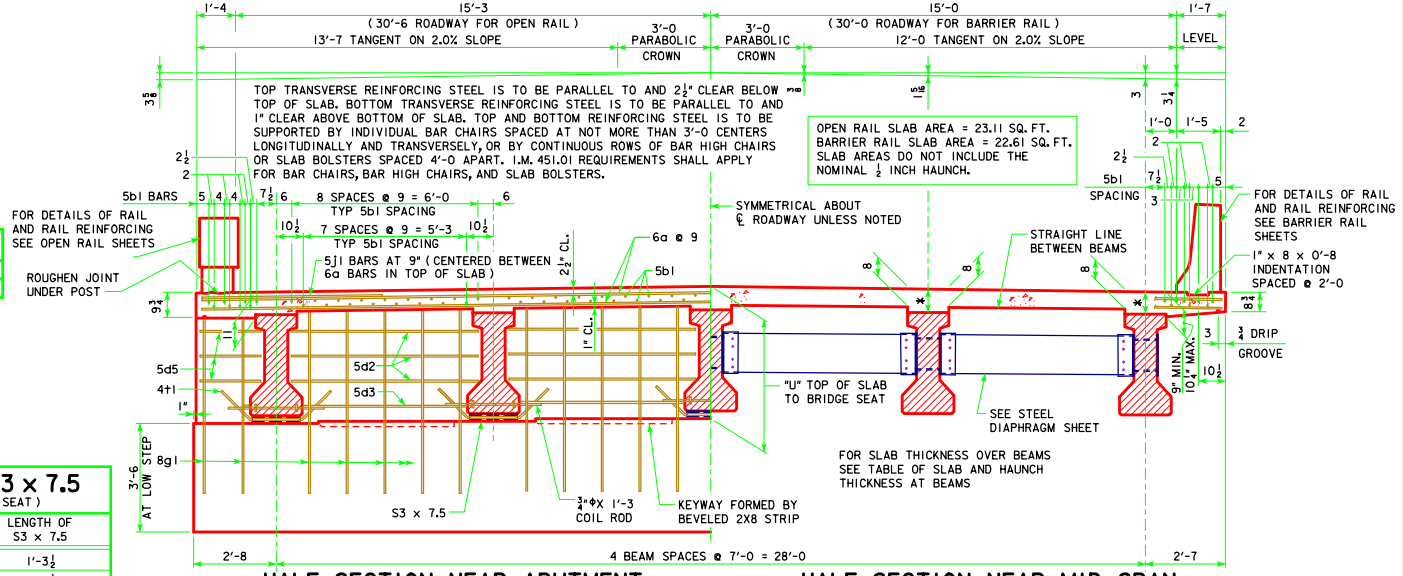
THE CONCRETE SEALER LIMITS ARE SHOWN IN THE DETAIL AND SHALL APPLY TO THE FULL LENGTH OF BRIDGE. CONCRETE SEALER SHALL BE APPLIED IN ACCORDANCE WITH ARTICLE 2403.03, P, 3, OF THE STANDARD SPECIFICATIONS.



CONCRETE SEALER LIMITS FOR OPEN RAILS



DRAIN DETAILS
(USE FOR BARRIER RAIL ONLY, NOT REQUIRED FOR OPEN RAIL)



HALF SECTION NEAR ABUTMENT
(OPEN RAIL SHOWN)

HALF SECTION NEAR MID SPAN
(BARRIER RAIL SHOWN)

GENERAL NOTES:

THESE BRIDGES ARE DESIGNED FOR HL-93 LOADING PLUS 20 LBS. PER SQ. FT. OF ROADWAY FOR FUTURE WEARING SURFACE.

SLAB THICKNESS INCLUDES 1/2" INTEGRAL WEARING SURFACE.

CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2" UNLESS OTHERWISE NOTED OR SHOWN. ALL REINFORCING BARS ARE TO BE SECURELY WIRED IN PLACE AND ADEQUATELY SUPPORTED ON BAR CHAIRS BEFORE CONCRETE IS PLACED. I.M. 451.01 REQUIREMENTS SHALL APPLY FOR BAR CHAIRS.

ALL PRESTRESSED BEAMS ARE TO BE SET VERTICAL.

FORMS FOR THE SLAB AND RAILS ARE TO BE SUPPORTED BY THE PRESTRESSED BEAMS.

COST OF DRAINS IS TO BE INCLUDED IN PRICE BID FOR STRUCTURAL STEEL.

THE ABUTMENT DIAPHRAGM CONCRETE IS TO BE PLACED MONOLITHIC WITH THE FLOOR SLAB.

ALL REINFORCING STEEL IS TO BE GRADE 60.

COST OF BEARING MATERIAL IS TO BE INCLUDED IN THE PRICE BID FOR PRETENSIONED, PRESTRESSED CONCRETE BEAM.

06-12
LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 30' ROADWAY, SINGLE SPAN BRIDGE

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

APRIL, 2012

SUPERSTRUCTURE DETAILS | H30SI-02-12

REVISED 06-12 - I.M. REQUIREMENT ADDED TO BAR CHAIR NOTE. CONCRETE SEALER AREA CHANGED AND SEALER NOTES WERE CHANGED.