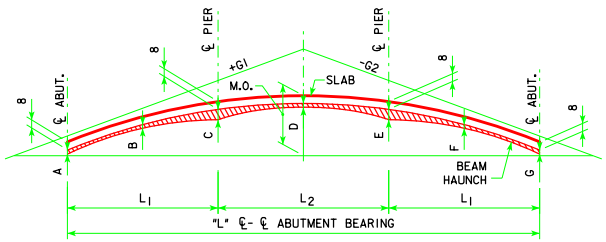
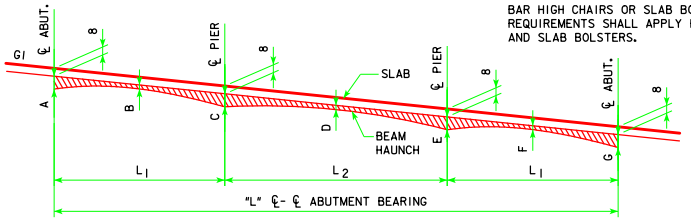


℄-℄ ABUT. BRG. "L"	A ℄ ABUT.	B	C ℄ PIER	D	E ℄ PIER	F	G ℄ ABUT.
138'-10	1	9/16	1 7/16	1/2	1 7/16	9/16	1
151'-4	7/8	5/8	1 11/16	9/16	1 11/16	5/8	7/8
163'-10	7/8	9/16	1 7/16	9/16	1 7/16	9/16	7/8
176'-4	7/8	5/8	1 5/8	1/2	1 5/8	5/8	7/8
188'-10	7/8	5/8	2	9/16	2	5/8	7/8
201'-4	1/2	11/16	1 3/8	1/2	1 3/8	11/16	1/2
213'-10	11/16	5/8	1 3/4	9/16	1 3/4	5/8	11/16
226'-4	1 1/8	9/16	1 5/8	9/16	1 5/8	9/16	1 1/8
243'-0	1 1/2	9/16	1 5/8	9/16	1 5/8	9/16	1 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.

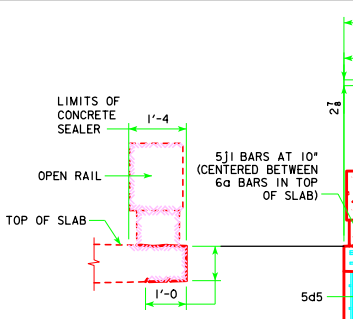
SLAB AND HAUNCH THICKNESS AT BEAMS FOR VERTICAL CURVE



℄-℄ ABUT. BRG. "L"	A ℄ ABUT.	B	C ℄ PIER	D	E ℄ PIER	F	G ℄ ABUT.
138'-10	1 1/16	1/2	1 11/16	9/16	1 11/16	1/2	1 1/16
151'-4	7/8	9/16	1 7/8	1/2	1 7/8	9/16	7/8
163'-10	15/16	1/2	1 11/16	1/2	1 11/16	1/2	15/16
176'-4	15/16	1/2	1 15/16	1/2	1 15/16	1/2	15/16
188'-10	1 1/16	9/16	2 3/16	9/16	2 3/16	9/16	1 1/16
201'-4	3/4	5/8	1 13/16	9/16	1 13/16	5/8	3/4
213'-10	7/8	1/2	1 13/16	9/16	1 13/16	1/2	7/8
226'-4	1 3/16	1/2	2 1/8	9/16	2 1/8	1/2	1 3/16
243'-0	1 15/16	1/2	2 1/8	9/16	2 1/8	1/2	1 15/16

G1 MAY HAVE A + OR - SIGN. THE MINIMUM NUMERICAL VALUE OF THE GRADE IS 0.3% AND THE MAXIMUM VALUE IS 5%.

SLAB AND HAUNCH THICKNESS AT BEAMS FOR STRAIGHT GRADE

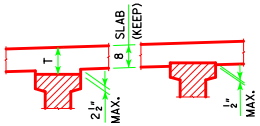


CONCRETE SEALER LIMITS FOR OPEN RAILS

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.

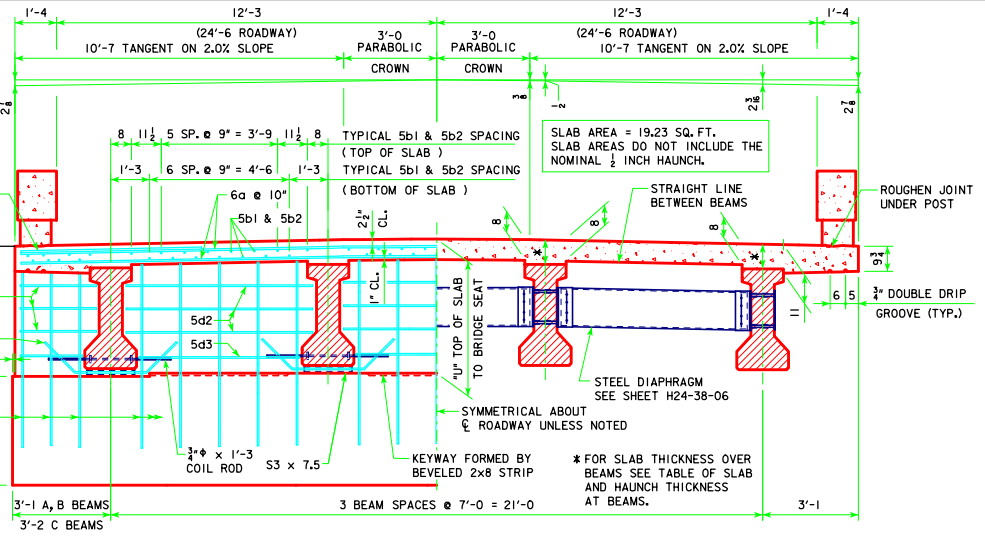
THE CONCRETE SEALER LIMITS ARE SHOWN IN THE DETAIL AND SHALL APPLY TO THE FULL LENGTH OF BRIDGE. CONCRETE SEALER SHALL BE APPLIED IN ACCORDANCE WITH ARTICLE 2403.03, P, 3, OF THE STANDARD SPECIFICATONS.

TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 2½" CLEAR BELOW TOP OF SLAB. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 1" CLEAR ABOVE BOTTOM OF SLAB. TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL BAR CHAIRS SPACED AT NOT MORE THAN 3'-0 CENTERS LONGITUDINALLY AND TRANSVERSELY, OR BY CONTINUOUS ROWS OF BAR HIGH CHAIRS OR SLAB BOLSTERS SPACED 4'-0 APART. I.M. 451.01 REQUIREMENTS SHALL APPLY FOR BAR CHAIRS, BAR HIGH CHAIRS, AND SLAB BOLSTERS.



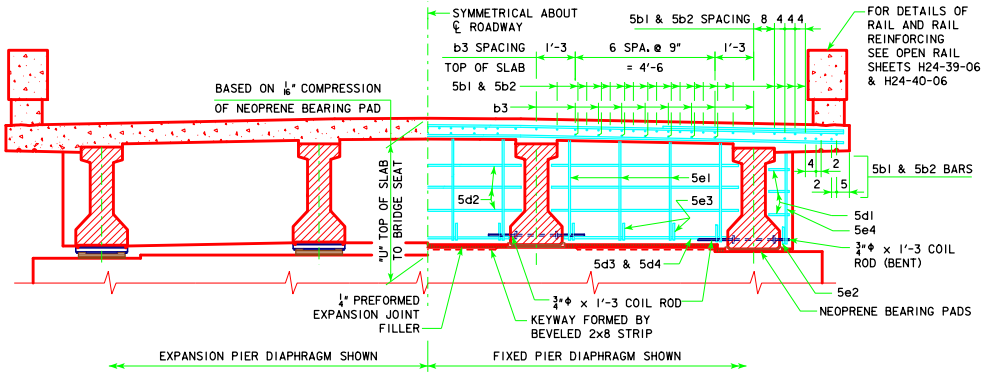
SLAB THICKNESS DETAILS

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 (POINTS B, D AND F). IF THE BEAM IS OVER CAMBERED DECREASE THE HAUNCH THICKNESS OVER THE BEAM AT THE MIDPOINT OF THE SPANS (POINTS B, D AND F) TO A MAXIMUM OF ½" EMBEDMENT IN THE SLAB. IF MORE THAN ½" EMBEDMENT IS REQUIRED OR IF THE HAUNCH EXCEEDS 2½" THE GRADE LINE IS TO BE REVISED.



HALF SECTION NEAR ABUTMENT

HALF SECTION NEAR MID SPAN



SECTION NEAR PIER

LENGTH OF S3 x 7.5
(ABUTMENT BEAM SEAT)

BEAM BOTTOM FLANGE WIDTH	LENGTH OF S3 x 7.5
1'-5	1'-3½
1'-8	1'-6½

LATEST REVISION DATE 06-12

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 24' ROADWAY, THREE SPAN BRIDGE

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

DECEMBER, 2006

SUPERSTRUCTURE DETAILS | H24-03-06

REVISED 06-12 - I.M. REQUIREMENT ADDED TO BAR CHAIR NOTE.