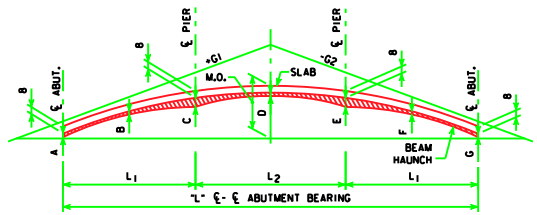
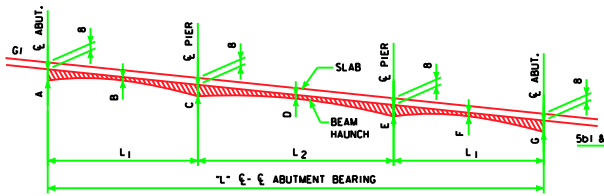



| ℄-℄ ABUT. BRG. "L" | A ℄ ABUT. | B | C ℄ PIER | D | E ℄ PIER | F | G ℄ ABUT. |
|---|---|---|---|---|---|---|---|
| 138'-10 | 5/8 | 1/2 | 1 1/2 | 5/8 | 1 1/2 | 1/2 | 5/8 |
| 151'-4 | 3/4 | 5/8 | 1 11/16 | 1/2 | 1 11/16 | 5/8 | 3/4 |
| 163'-10 | 13/16 | 1/2 | 1 5/8 | 1/2 | 1 5/8 | 1/2 | 13/16 |
| 176'-4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

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

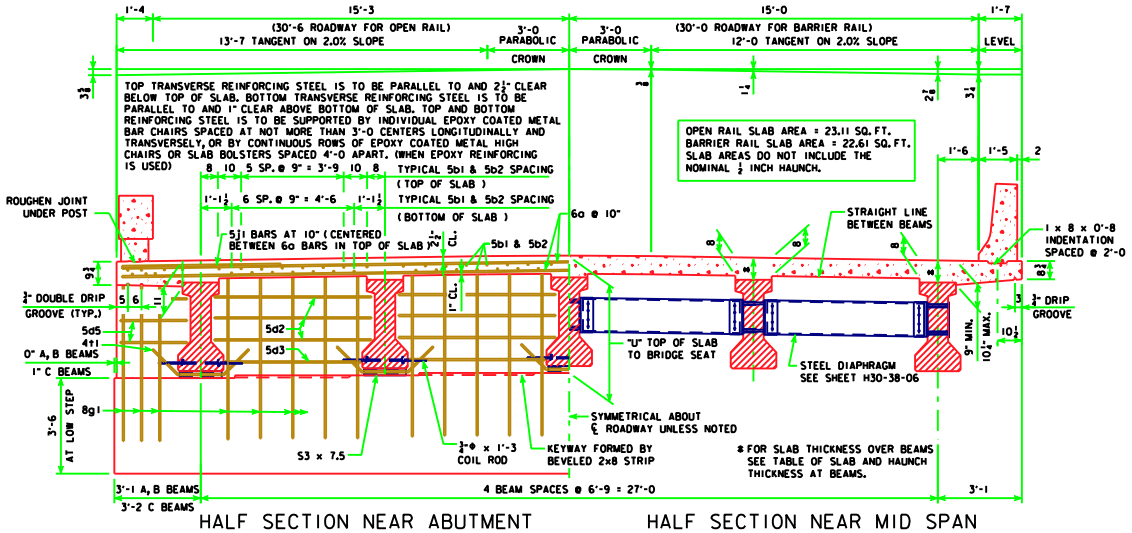
## SLAB AND HAUNCH THICKNESS AT BEAMS FOR VERTICAL CURVE




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

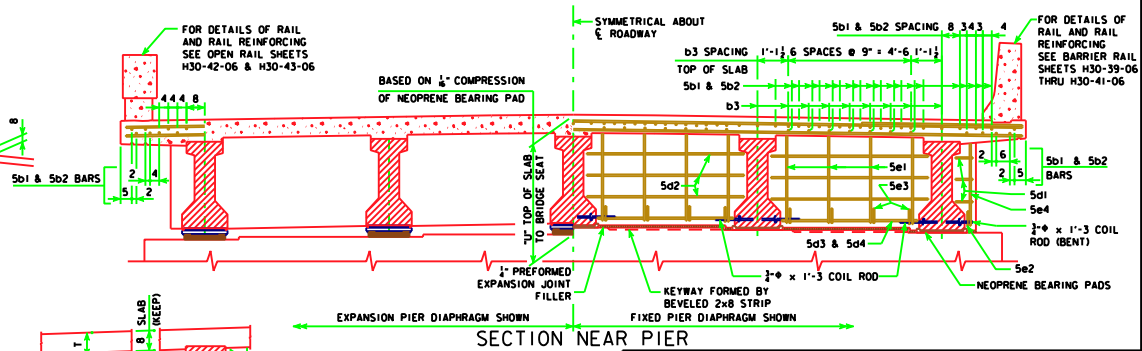
G1 MAY HAVE A + OR - SIGN. THE MINIMUM NUMERICAL VALUE OF THE GRADE IS 0.3% AND THE MAXIMUM VALUE IS 5%.

## SLAB AND HAUNCH THICKNESS AT BEAMS FOR STRAIGHT GRADE




HALF SECTION NEAR ABUTMENT

HALF SECTION NEAR MID SPAN
(OPEN RAIL SHOWN)
(BARRIER RAIL SHOWN)




SECTION NEAR PIER




## 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.

## LENGTH OF S3x7.5
(ABUTMENT BEAM SEAT)

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

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 30' ROADWAY, THREE SPAN BRIDGES

# PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

HL93 SUPERSTRUCTURE DECEMBER, 2006 HS25 SUBSTRUCTURE

SUPERSTRUCTURE DETAILS | H30-03-06