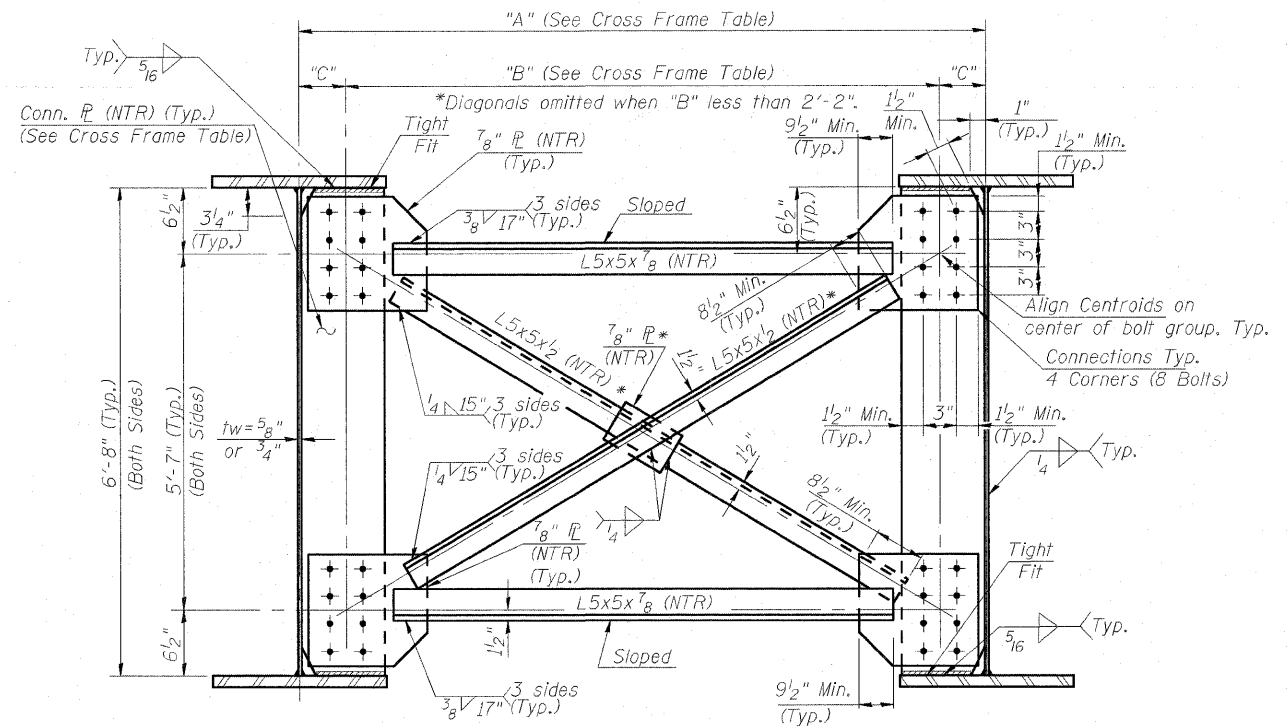


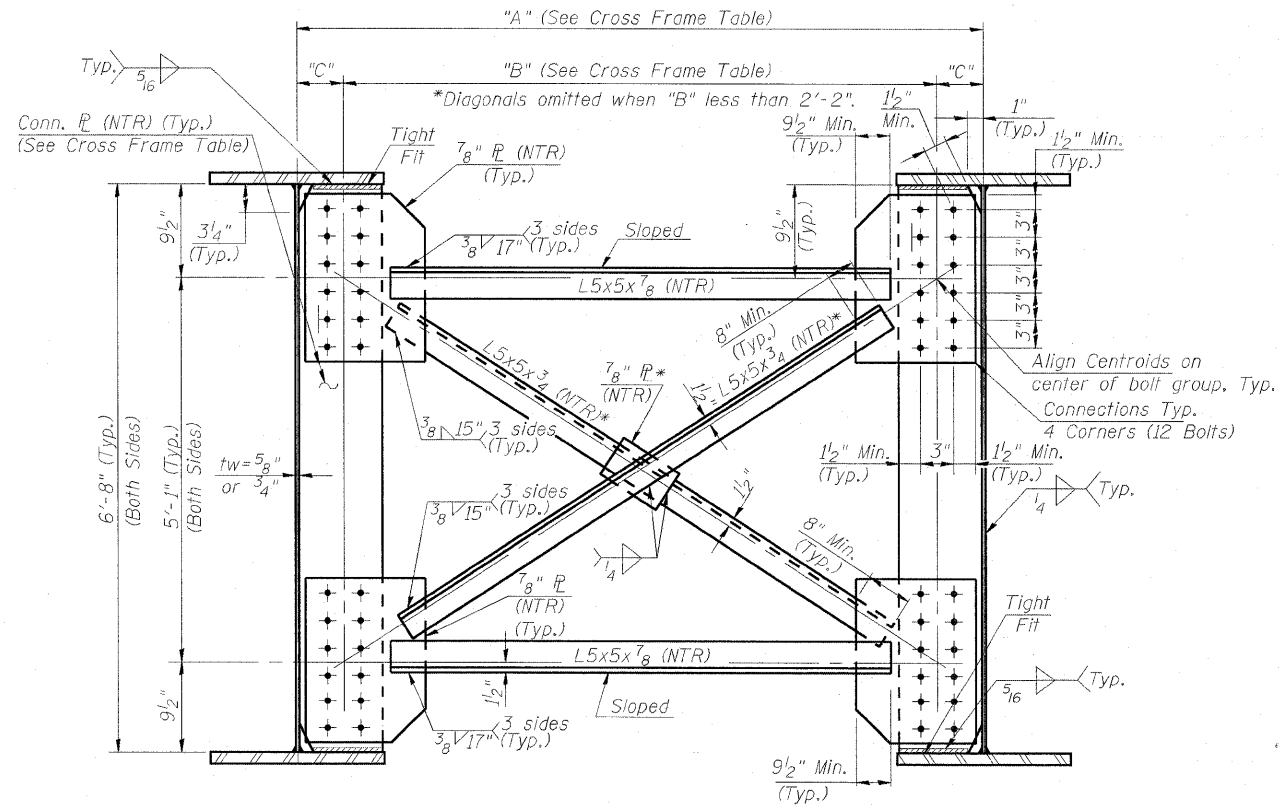
INTERIOR CROSS FRAME - TYPE I

(517 Required)
Use in all Units except Unit 2.



INTERIOR CROSS FRAME - TYPE II

(151 Required)
Use in Unit 2.

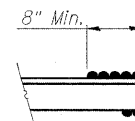


INTERIOR CROSS FRAME - TYPE III

(5 Required)
Use astride Headers in Unit 1.

*Diagonals omitted when "B" less than 2'-2".

- Cross Frame Notes:
- See Framing Plans for location of girder cross frames.
 - AASHTO M270 Grade 50 steel shall be used for all cross frames, connection plates, and bearing stiffeners, unless otherwise noted.
 - Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness (Zone 2).
 - Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$ in. ϕ , holes $\frac{15}{16}$ in. ϕ , unless otherwise noted.
 - Field reaming shall not exceed that permitted in Article 505.08(I) of the Standard Specifications. If any field reaming is required, two hardened washers are required for each oversized bolt hole.
 - The Contractor is alerted that differences in web thickness across the splice create a slight misalignment of the webs that may need to be accounted for when detailing cross frames in shop drawings in order to properly control geometry and avoid any fit-up issues. The web fill plates are shown with one each side of web; alternatively, they may be detailed and installed on the same side of the web at rows of adjacent splices in order to minimize girder spacing differences at these locations.
 - Welding:**
Balance weld lengths for both 3 sided & 4 sided welds about the centroid of angle to avoid weld eccentricity. Minimum length of any fillet weld = 4 x weld size $\geq 1\frac{1}{2}$ ". Minimum total length of weld & length along the outstanding leg are shown:



- Steel Erection Notes:
- Erection shall be accomplished by a steel erection contractor or sub-contractor certified as an Advanced Certified Steel Erector (ACSE) by the American Institute of Steel Construction (AISC). See special provision for "Erection of Complex Steel Structures".
 - All cross frames between girders shall be installed with erection pins and bolts in accordance with erection plan submitted to and approved by the Engineer. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
 - The calculated deflections of the primary girders under steel self-weight shall be used to detail the cross frame connections, and to erect the structural steel such that girders will be plumb within a tolerance of $\pm \frac{1}{8}$ in. per vertical foot throughout the length of the girder system when supporting their own weight.
 - The Contractor shall either:
 - Ream cross frame connection holes during shop assembly, or
 - Provide detailing and fabrication controls acceptable to the Engineer which ensures accuracy such that field reaming will not exceed the amount permitted in Article 505.08(I) of the Standard Specifications.

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 12/15/2011 10:58:16 AM



USER NAME =
 PLOT SCALE = 082 1/4" / IN.
 PLOT DATE = 8/15/2011

DESIGNED - P.J.L.
 DRAWN - BRD
 CHECKED - CHY
 DATE - 08-12-11

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CROSS FRAME DETAILS - I
 I-70E OVER I-55, CSX & KCS RAILROADS

SCALE: SHEET S-127 OF S-234 SHEETS STA. TO STA.

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------------------------|----------|---------------------------|--------------|-----------|
| 70 | 82-1-B-2 | ST. CLAIR | 399 | 254 |
| S.N. 082-0322 & S.N. 082-0324 | | CONTRACT NO. 76C76 | | |
| FED. ROAD DIST. NO. | | ILLINOIS FED. AID PROJECT | | |