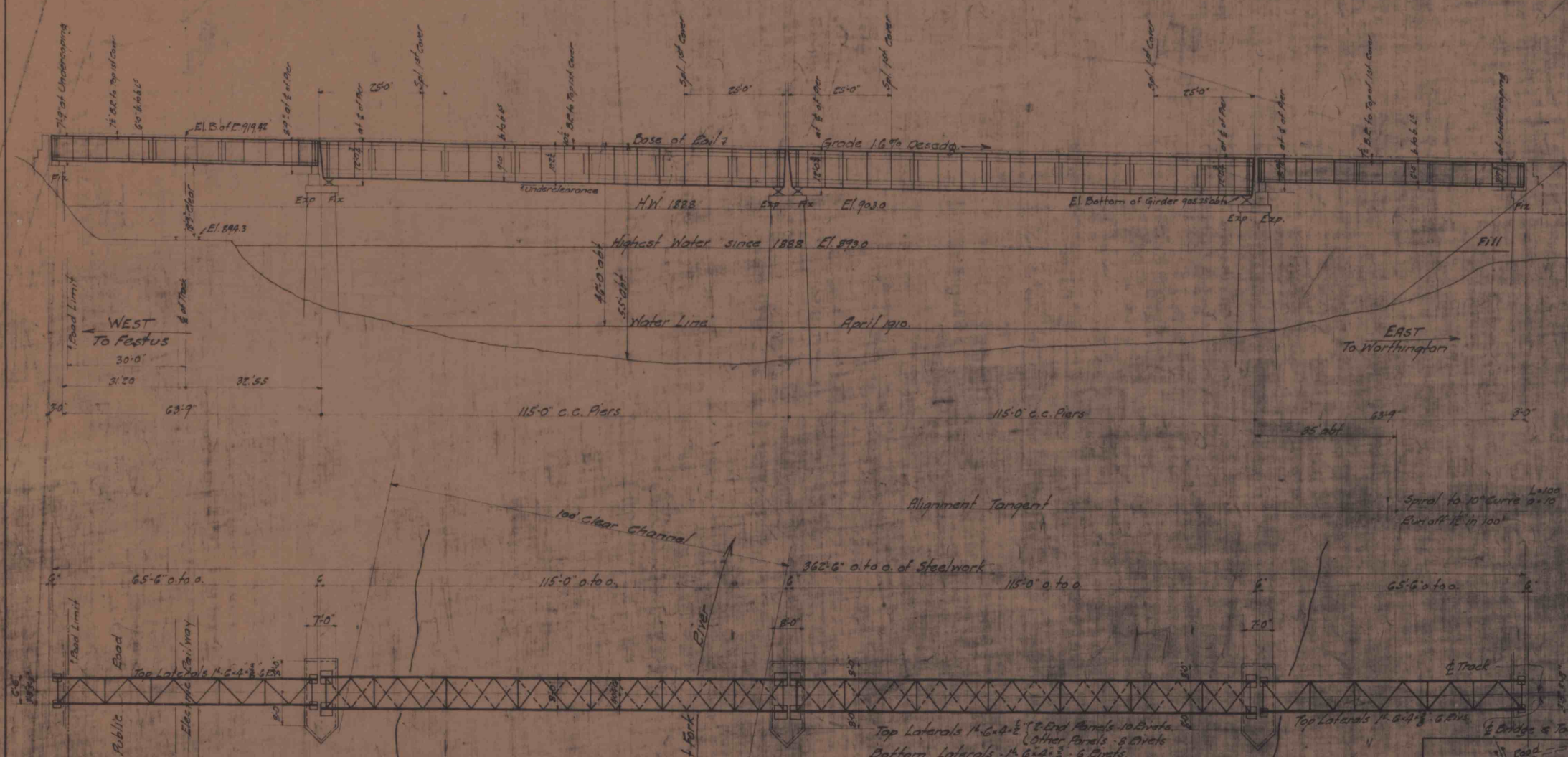
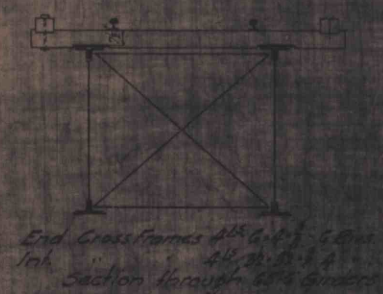
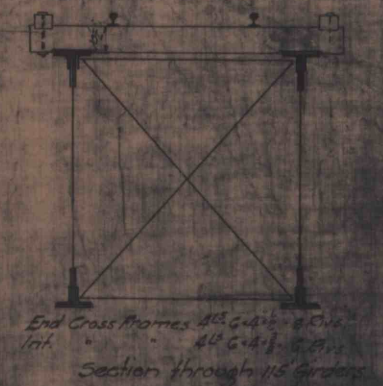




29 Bolt every 4th Tie with flat bottom head and fins to prevent turning. 5/16" 3/4" washer under nut.

20 x 10 bolt splice every 4th tie to alternate with 28 x 28 bolts. Guard rails matched over top stringer beam on each side of guard rail splice.



Girders 115'-0" o.t.o.o. 7'-0" b.t.o.b. - 112'-0" c.t.o.c. bearings
 Max. Shear 400000 #
 400000 ÷ 9000 = 44.4" reqd.
 Web pl. 107 1/2" x 1/2" - 4703 #
 Rivet pitch: Ends 2 1/2" 3/4" dia. 4 1/2"
 End Stiffs 4 1/2" x 3/4" with fills
 Int. Stiffs 2 1/2" x 3/4" - Fill for side pl. crimp for 1/2"
 at cross frames, fills for inside L.
 Web Splices 2 Pls 20" x 3/4"
 Shoes 36" x 38" - Cast Steel.

Max. Moment 9954000 #
 9954000 ÷ (3.6 x 16000) = 72.40" reqd.
 Flange Section
 to Web 2.35" net
 2 1/2" x 8" x 3/4" 22.96"
 2 Side Pls 16" x 3/4" 17.50"
 1 Cov. Pl. 18" x 3/4" Full Lath 10.00"
 1 Cov. Pl. 18" x 3/4" 73 10.00"
 1 Cov. Pl. 18" x 3/4" 48 10.00"
 72.81 net

Girders 65'-6" o.t.o.o. 6'-0" b.t.o.b. - 63'-6" c.t.o.c. bearings
 Max. Shear 254000 #
 254000 ÷ 9000 = 28.22" reqd.
 Web pl. 71 1/2" x 1/2" - 3128 #
 Rivet pitch: Ends 2 1/2" 3/4" dia. 4 1/2"
 End Stiffs 4 1/2" x 3/4" with fills
 Int. Stiffs 2 1/2" x 3/4" - crimped
 at cross frames, fills for inside L.
 Web Splices 2 Pls 12" x 3/4"
 Shoes 24" x 30" - Cast Iron.

Max. Moment 3570000 #
 3570000 ÷ (3.6 x 16000) = 37.20" reqd.
 Flange Section
 to Web 1.74" net
 2 1/2" x 6" x 3/4" 11.72" net
 1 Pl. 16" x 3/4" Full Lath 7.83"
 1 Pl. 16" x 3/4" 45 7.83"
 1 Pl. 16" x 3/4" 33 7.83"
 37.36 net

Bill of Ties (Furnished by B.&O.R.R.)
 84 Ties 8" x 8" x 11'-0" W.O. or G.Y.P.
 117 8" x 11" x 11'-0"
 84 8" x 10" x 11'-0"
 15 Banded Ties 8" x 7 1/2" x 8'-8 1/2" x 11'-0" W.O. or G.Y.P.
 15 8" x 7 1/2" x 8'-8 1/2" x 11'-0"
 9 8" x 7 1/2" x 8'-9 1/2" x 11'-0"
 52 Guard Rails 6" x 8" x 16' G.Y.P.

Notes
 Live Load: 2-17 1/2 Tons Engines (Super E30)
 Materials: O.H. Structural Steel
 Specifications: B.&O.R.R. 1904
 Drawings & Diagrams
 For General Details see Dr. # 11584-D



Approved
 M. S. Thompson
 Chief Engineer

Wanted 2 Single Track Deck Pl. Girder Spans 115'-0" o.t.o.o.
 2 Single Track Deck Pl. Girder Spans 65'-6" o.t.o.o.
 Shoes, Rib Bolts, Washers, etc.

B. & O. R. R.
 MONONGAHELA RIVER R. R.
 TEVINGAUGH CREEK BRANCH
 BRIDGE OVER WEST FORK RIVER

Scale 1" = 20 Ft.
 Office of Engineer of Bridges
 May 14, 1910
 Baltimore, Md.

Approved
 M. S. Thompson
 Engineer of Bridges

Drawing No. 11584-D