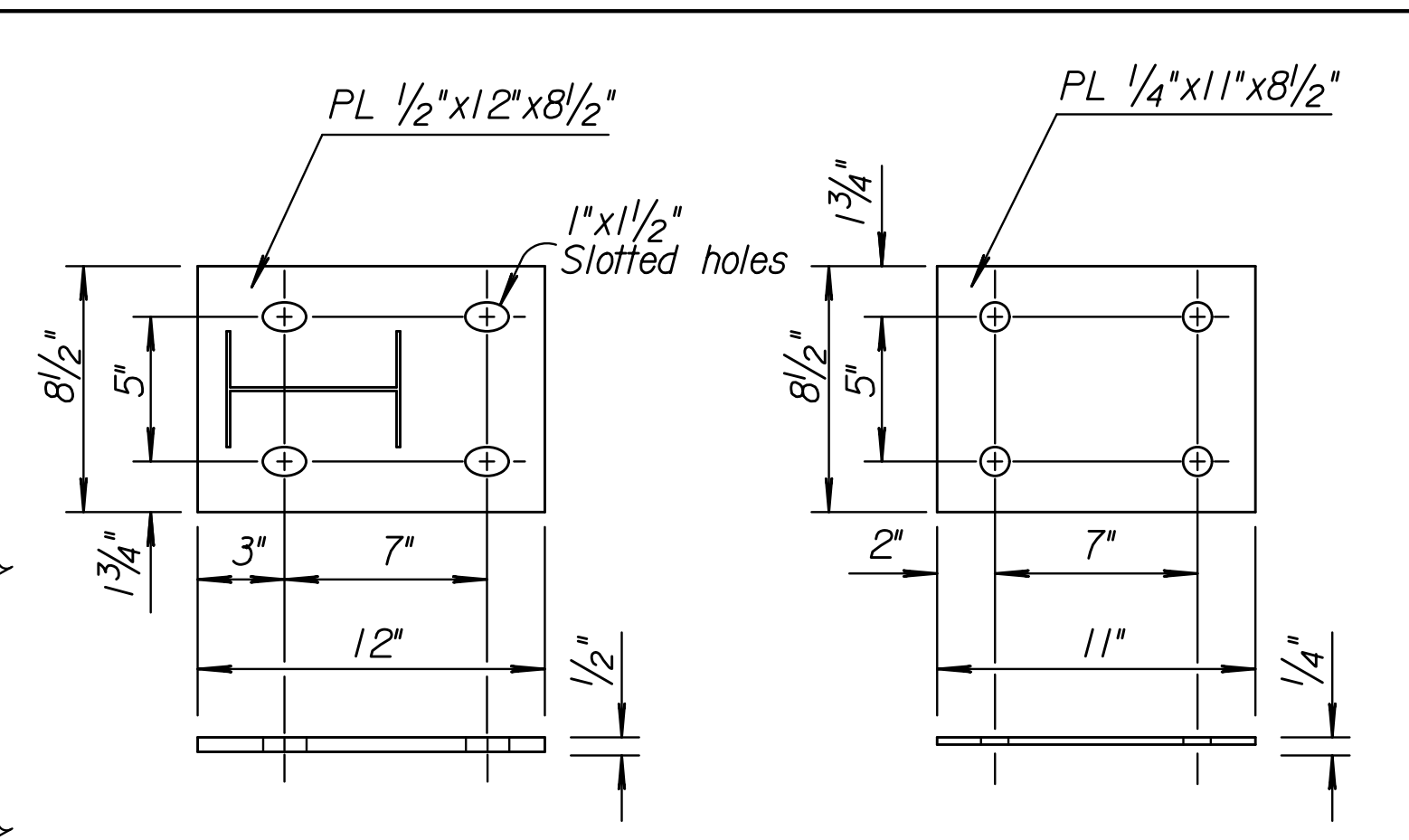
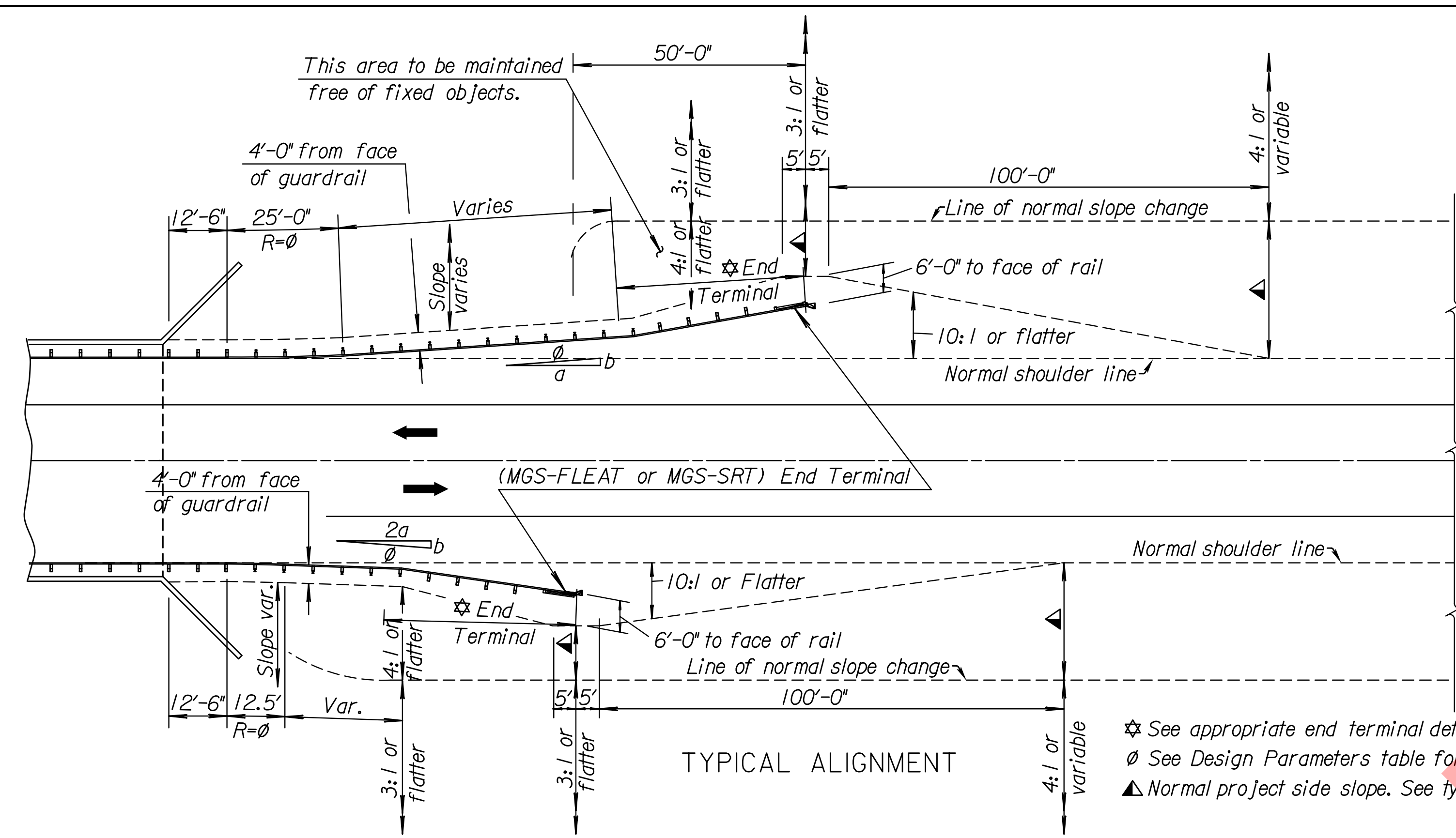


Notes to Designer: Determine guardrail length of need using either KDOT's Length of Need Equation or a graphic design approach with an L₁ distance measured from the edge of the area of concern to the P.I. of the curved guardrail section.

Plotted: 13-NOV-2012 11:34

Drawn By: tfrroads
File: rd617c-1.dgn

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|--------|-------------|------|-----------|--------------|
| STATE | PROJECT NO. | YEAR | SHEET NO. | TOTAL SHEETS |
| KANSAS | | | | |

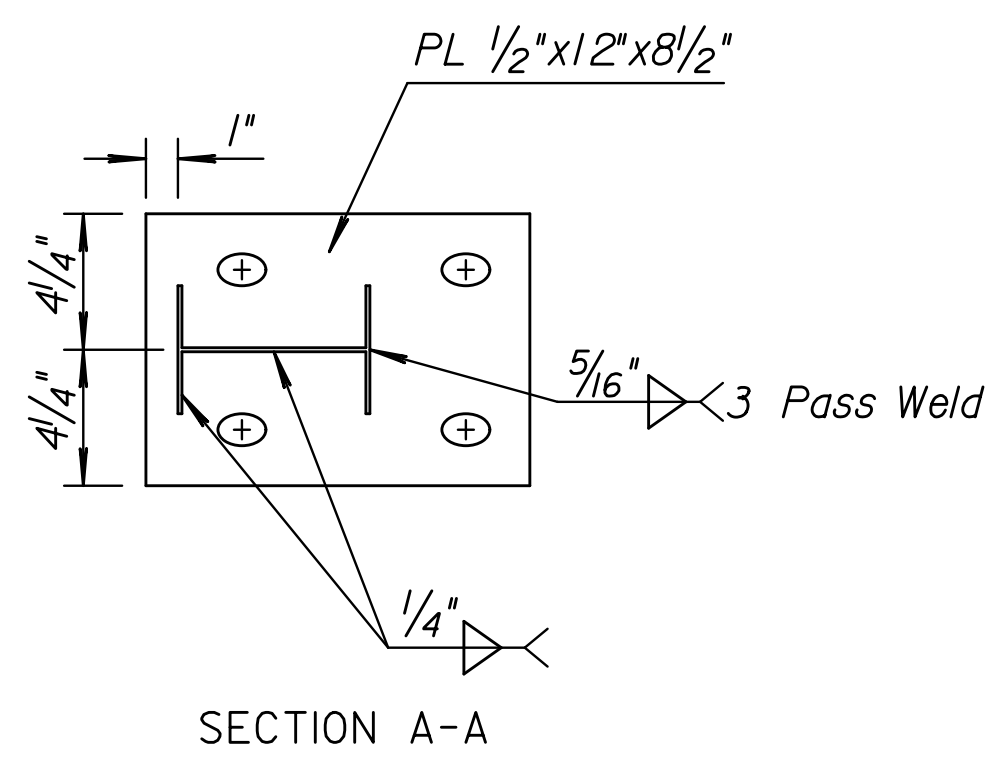
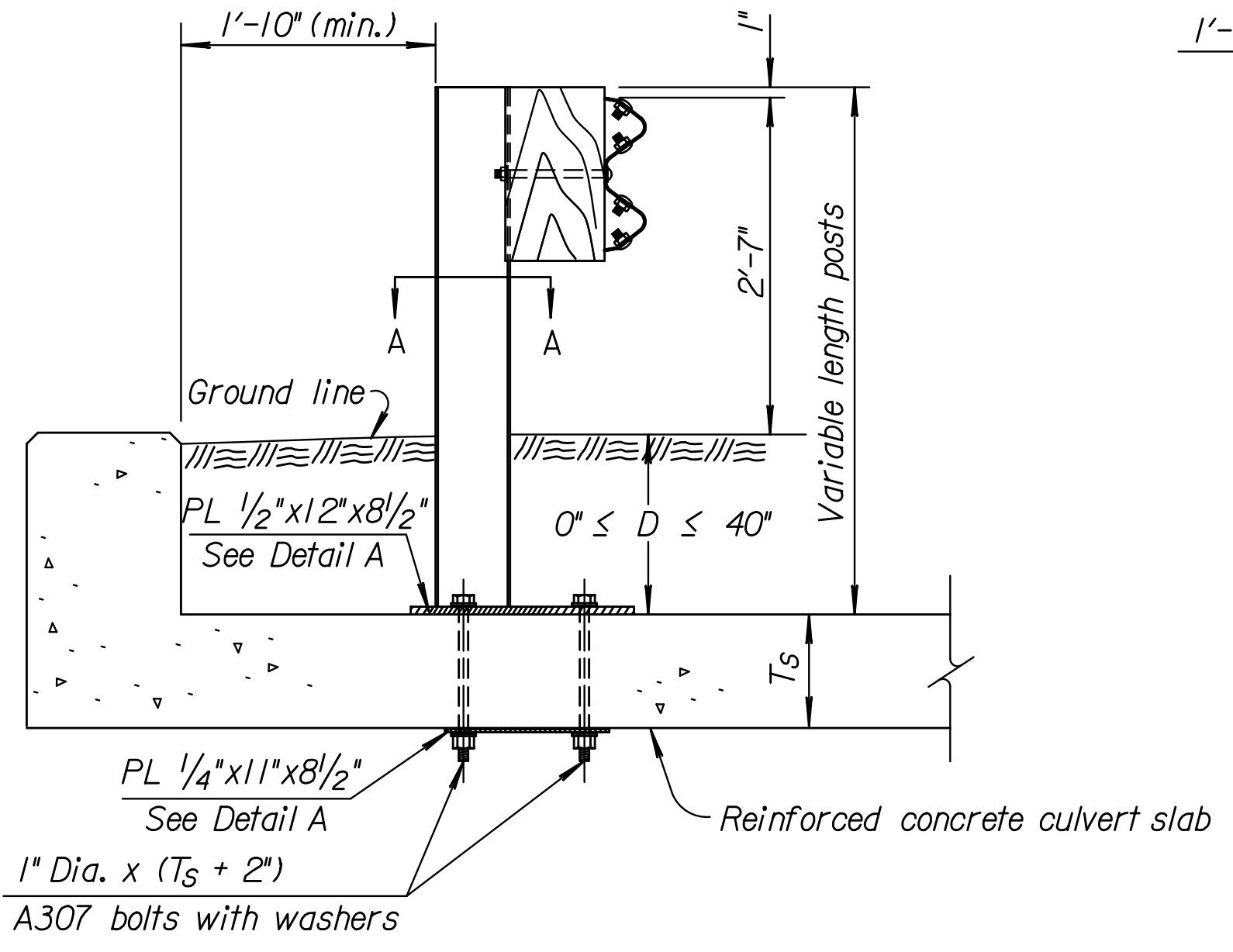
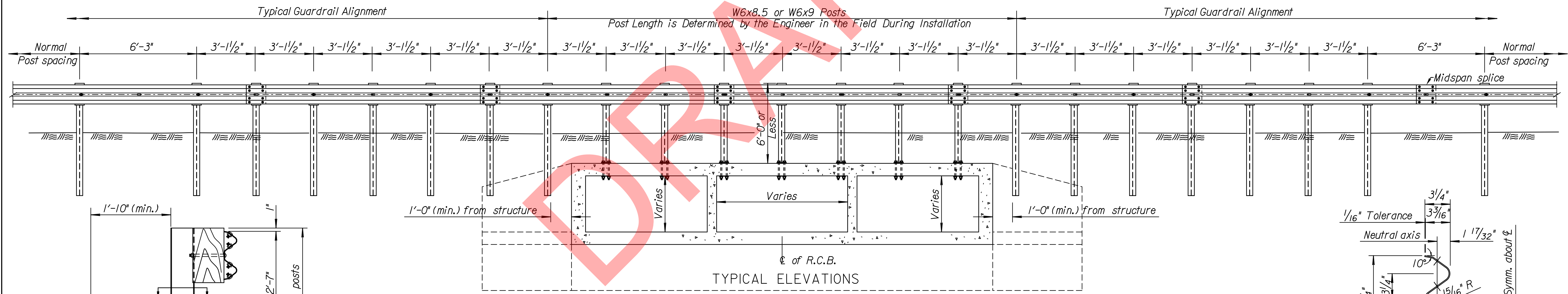


GENERAL NOTES
 Use this Standard Drawing for (MGS) Guardrail installed over a low fill culvert greater than 22'-6" wide. See Typical Alignment for guardrail installation from posts attached to culvert to End Terminal.
 Use Standard W-Beam Guardrail throughout.
 See Standard Drawing RD611A for guardrail post and blackout details not shown on this sheet.
 Guardrail layout shown this sheet is for flared installation, see Standard Drawing RD606E for (MGS-FLEAT) End Terminal or Standard Drawing RD621A for (MGS-SRT) End Terminal.

| Design Parameters | | | | |
|--------------------|------------------|------------|-------------------|------------|
| Design Speed (mph) | Flare Rate (a:b) | Radius (R) | Flare Rate (2a:b) | Radius (R) |
| 70 | 15:1 | 375.55' | 30:1 | 375.14' |
| 60 | 14:1 | 350.59' | 26:1 | 325.16' |
| 55 | 12:1 | 300.69' | 24:1 | 300.17' |
| 50 | 11:1 | 275.76' | 21:1 | 262.70' |
| 45 | 10:1 | 250.83' | 18:1 | 225.23' |
| 40 | 8:1 | 201.04' | 16:1 | 200.26' |

Note: Where guardrail is beyond shy line use flare rate of a:b and 25'-0" curve length. When guardrail is located inside shy line use flare rate of 2 a:b and 12'-6" curve length.

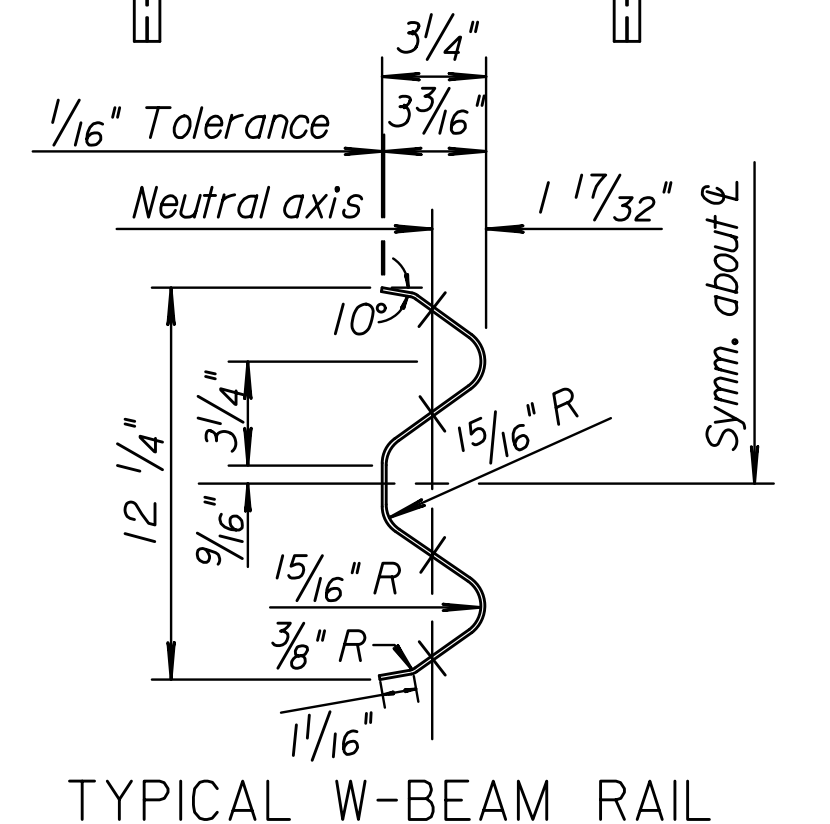
☆ See appropriate end terminal details.
 ∅ See Design Parameters table for radius and flare rate.
 ▲ Normal project side slope. See typical sections.



1" Dia. A307 Grade A Threaded Rod with Nut and Wshr. to be grouted with an approved epoxy or polyester resin in accordance with standard specifications.

◆ Embed anchor rod a min. of 8" Use a bonding agent with a min. bond strength of 1,800 psi.

ALTERNATE POST ATTACHMENT
 (This attachment to be used only when bolting through the top slab is not practical.)



| NO. | DATE | REVISIONS | BY | APP'D |
|-----|------|-----------|----|-------|
| | | | | |

KANSAS DEPARTMENT OF TRANSPORTATION

ALIGNMENT (FLARED) & DETAILS FOR (MGS) GUARDRAIL PROTECTION ON LOW FILL CULVERTS

RD617C

| | | |
|------------|------------|------------------------|
| DESIGNED | QUANTITIES | APP'D. James O. Brewer |
| DESIGN CK. | TRACE CK. | TRACED Bowser |
| | | TRACE CK. King |

KDOT Graphics Certified 11-13-2012