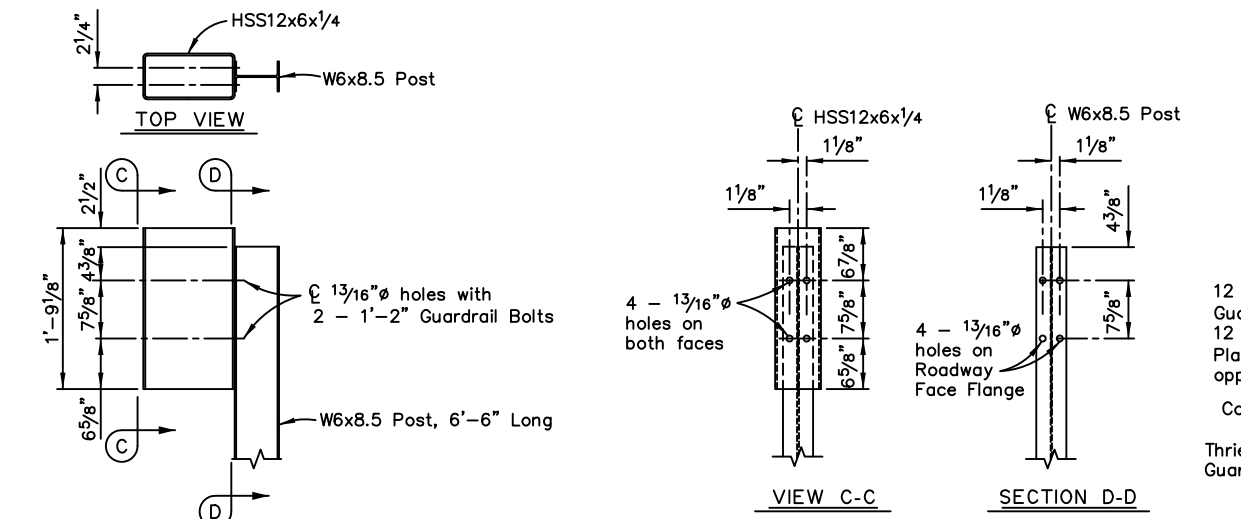
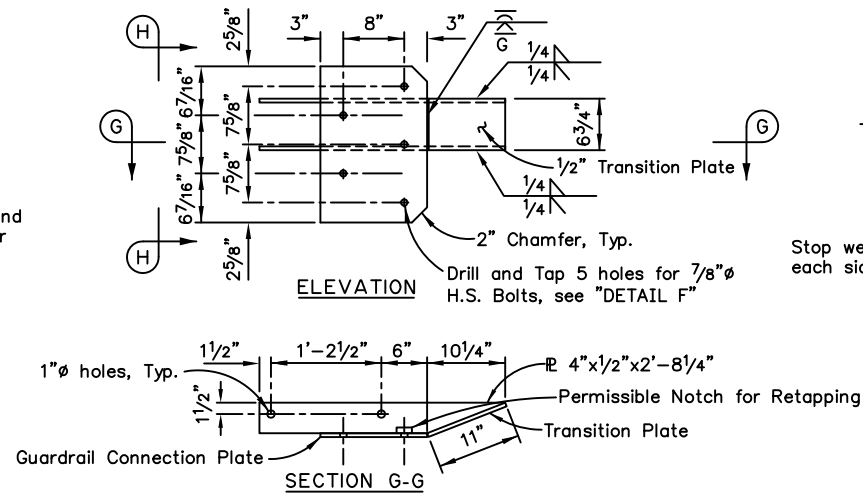
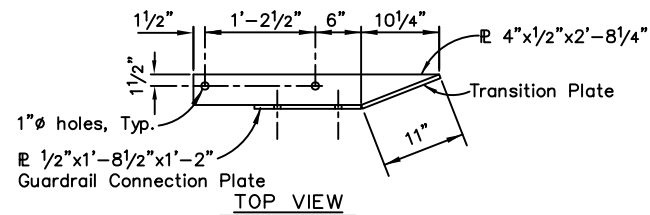


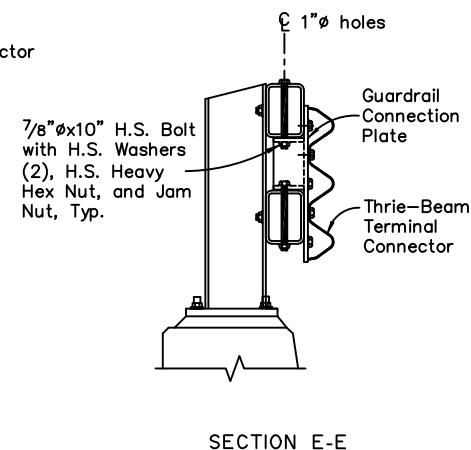
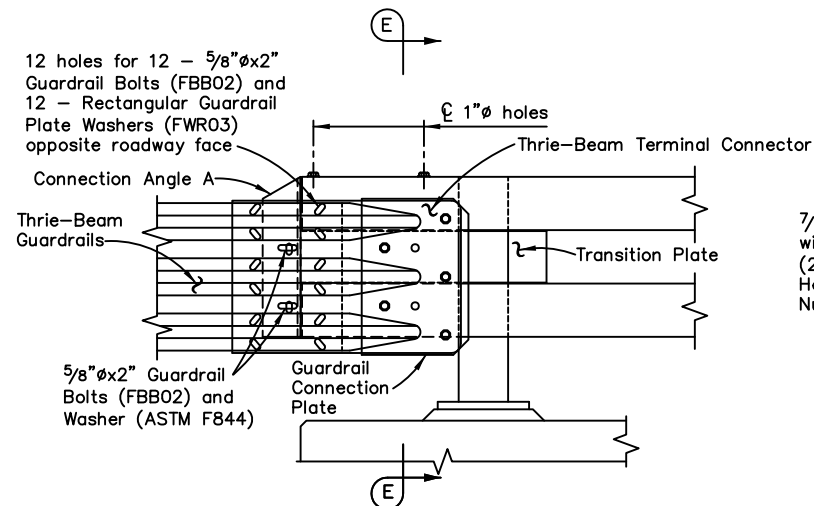
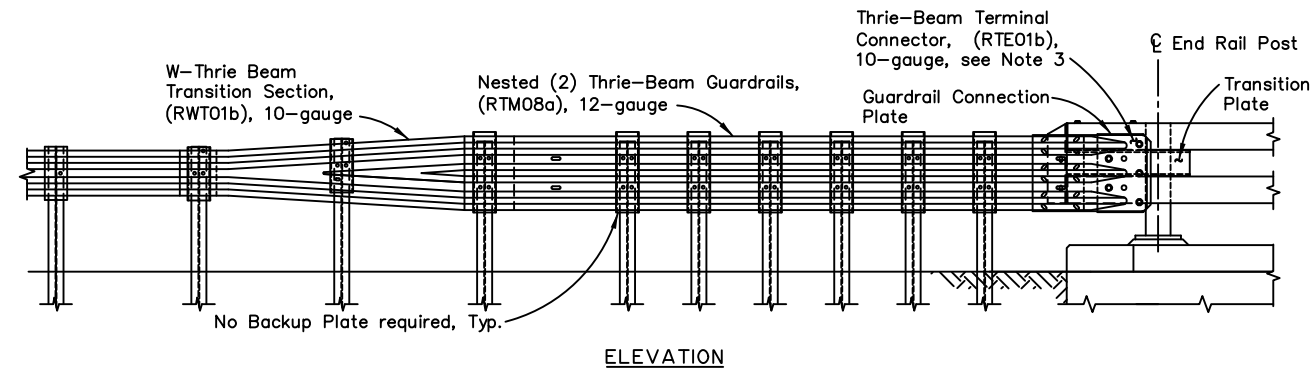
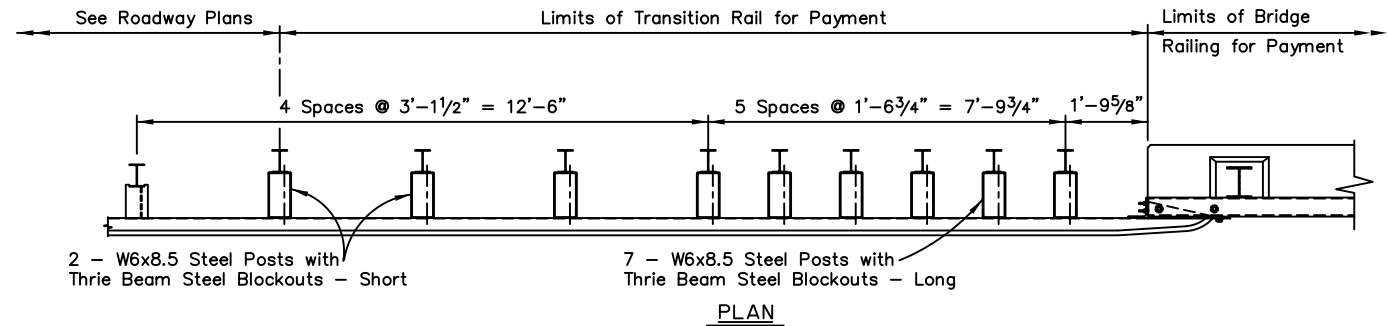
THRIE BEAM STEEL BLOCKOUT - SHORT



THRIE BEAM STEEL BLOCKOUT - LONG



GUARDRAIL CONNECTION PLATE DETAILS



- NOTES:
1. Conform to G-00, G-05, and G-10 of the Standard Plans for all Thrie Beam Transition details not shown.
  2. Thrie Beam Transition part numbers are listed in parentheses and referenced in the "Task Force 13 Guide to Standardize Roadside Hardware."
  3. Contractor to select the Thrie-Beam Terminal Connector Original, Alternate 1 (shown), or Alternate 2 that fits over and under the Nested Thrie-Beam Guardrail components without field modifications
  4. Recessed Guardrail Nuts on all 5/8" Bolts unless otherwise indicated.

State of Alaska DOT&PF  
ALASKA STANDARD PLAN  
MASH BRIDGE RAIL  
THRIE BEAM TRANSITION

DocuSigned by:  
Adopted as an Alaska  
Standard Plan by:  
Lauren Little, P.E.  
Chief Engineer

Adoption Date: 04/04/2025

Last Code and Stds. Review  
By: SEM Date: 04/04/2025

Next Code and Standards Review Date: 04/04/2035

No Scale



## STANDARD PLAN DEVELOPMENT REPORT (SPDR)

Standard Plan No.: G-32.04

Title: MASH Bridge Rail Thrie Beam Transition

Prepared by: Sara Manning, P.E. and TTI

Date: March 26, 2025

**Use:** This Standard Plan provides details for connecting W-beam guardrail to the 2019 MASH 2-Tube Bridge Rail. This plan provides a variable stiffness transition between the semi-rigid guardrail and the more rigid bridge rail.

**Design and Application Considerations:** Use this Standard Plan on projects requiring a MASH tested transition between W31 guardrail and 2019 MASH 2-Tube Bridge Rail.

**History:** G-32.04 is the 5th version of this Alaska Standard Plan. G-32.04 contains corrections to G-32.03 to ensure the Alaska Standard Plan matches the MASH Bridge Rail Thrie Beam Transition configuration and materials that are being used in construction, including a change to the “Task Force 13 Guide to Standardize Roadside Hardware” Thrie-Beam Terminal Connector and post size.

The corrections include:

- “W6x9 Post” callouts were changed to “W6x8.5 Post” for all posts.
- “2 – 1’-2” Guardrail Bolts” was added to the Thrie Beam Steel Blockout – Long detail for clarity.
- “1 – 5/8 x 1 ½” Hex Bolt on top” and “1 – 1’-2” Guardrail Bolt on bottom” was added to the Thrie Beam Steel Blockout – Short detail, and lines indicating such bolts were added, for clarity.
- The callout for the “Transition Plate” was changed to “1/2” Transition Plate” on the Elevation detail of the Guardrail Connection Plate Details.
- “Alternate 2” was deleted from all the Thrie-Beam Terminal Connector callouts and details were changed to show the Thrie-Beam Terminal Connector drawn as Alternate 1.
- Note 3 was added and the callout for the Elevation above was moved and added as Note 4.
- An unnecessary period was deleted from Connection Angle A Elevation view callout, along with other minor drafting corrections, including double dimensioning.
- A clarification was added to the callouts for the post View A-A and post View C-C, for hole placement.
- Post details were rearranged to match placement in the Plan view.

- The dimensions for the vertical holes in the bridge rail tube, in the Transition Connection – Elevation and Section E-E were deleted.
- The “No Backup Plate required, Typ.” callout was moved to an appropriate post.
- The ‘Limits of Bridge Railing for Payment’ was added, and the arrows were revised.
- Guardrail Bolt specifications were added to the callout on the Transition Connection – Elevation detail.
- “self locking Nut” was removed and “Hex Nut” was added to the callout on the Section E-E detail.
- Section H-H was corrected to View H-H.
- The dimensions were updated in the Plan view for the “End of Bridge Rail” to the first Transition Rail post and the “End Rail Post” post spacing to the “End of Bridge Rail” dimension was deleted.
- “Rail Cap, See “Rail Cap Detail” from Bridge Plans.” callout on the Connection Angle A Elevation detail was deleted.

G-32.03 was published on September 15, 2022.

G-32.03 contained corrections to match the MASH Bridge Rail Thrie Beam Transition materials that are being used in construction. The notes were corrected as to not duplicate the Alaska Standard Specifications for Highway Construction 2020 Edition.

The corrections include:

- Capitalized “Nuts”, “Bolts”, “Washers”, etc., throughout plan sheet for consistency.
- Note 1 and 2 were deleted and the subsequent notes were renumbered.
- “See Note 4 for additional details” was removed from below each blockout detail.
- “Holes” was changed to “holes” for lowercase spelling consistency.
- Hidden lines on view A-A and View C-C of the two different blockouts, were updated for drafting accuracy. Dimension text was also cleaned up.
- Leader arrows, that were missing, were added to the Top View of the Thrie Beam Steel Blockout – Long detail.
- Dimensions 3/16” and 1-1/2” were added to the Elevation view of the Connection Angle A for clarity.

G-32.02 was published July 30, 2021. G-32.02 contains corrections to match the MASH Bridge Rail Thrie Beam Transition nomenclature and materials that are being used in construction. The corrected nomenclature throughout matches the “Task Force 13 Guide to Standardize Roadside Hardware.”

The corrections include:

- Section G-G was added to the Guardrail Connection Plate Details to show the added 'Permissible Notch for Retapping'.
- Drafting corrections included making centerline lines for holes similar in the Guardrail Connection Plate Details.
- The first sentence in Note 1 was changed from "Use AASHTO M 180 for all *guardrail and guardrail hardware*." to "Use AASHTO M 180 for all *guardrail, transition rail, and hardware*."
- Note 2 was deleted and the subsequent notes were renumbered.
- The first sentence in Note 3 (previous number) was changed from "Provide 4 ½" horizontal slots in *approach guardrail*." to "Permissible 3" horizontal slots in *Thrie-Beam Guardrails*."
- In Note 4 (previous number), the word *guardrail* was changed to *Thrie Beam Transition*.
- Note 4 was added.
- "Gage" was changed to "gauge" throughout the plan sheet.
- The MASH Bridge Rail Thrie Beam Transition Alaska Standard Plan has many call-outs throughout the plan sheet, the nomenclature was updated throughout the sheet for specific hardware parts.
- Drafting corrections included adding a line to show the end of the Thrie-Beam Guardrail elements in the Transition Connection - Elevation and Elevation views.

G-32.01 was published August 6, 2020 and contained corrections to G-32.00 that ensured the Alaska Standard Plan matched the MASH Bridge Rail Thrie Beam Transition configuration.

The corrections included:

- Connection Angle A: Shape call-out was changed from L5x5x1/4x1'-9" to L5x5x5/16x1'-9". The correct and MASH crash-tested shape is 5/16" thick.
- Thrie Beam Steel Blockout - Long, View A-A: Dimension 6-7/8" was corrected to 6-5/8". The correct and MASH crash-tested blockout dimension is 6-5/8".
- Drafting corrections included larger dimension call-out arrows and matching notations for clarity.
- Plan view: W6x9 Steel Post & 2 Thrie Beam Steel Blockout – Short, and W6x9 Steel Post & 7 Thrie Beam Steel Blockout – Long call-outs were changed to 2 – W6x9 Steel Posts with Thrie Beam Steel Blockouts – Short and 7 – W6x9 Steel Posts with Thrie Beam Steel Blockouts – Long, respectively, for clarity.
- Detail F: 1/8" dimension for the Thrie Beam Terminal Connector plate was removed, and "10-gage" was added to the call-out for better accuracy. The Thrie Beam Terminal Connector plate is 10-gage, which is slightly greater than 1/8".

G-32.00 was published July 17, 2020.

**Applicable Design Standards, Codes and Specifications:** The transition was tested to AASHTO MASH standards in September 2019. All tests passed the MASH TL-3 crash test requirements.

**Tests or Backup Data:** The Texas Transportation Institute (TTI) performed the crash testing of the transition rail. The crash test report and FHWA eligibility letter are available at <http://www.dot.state.ak.us/stwddes/desbridge/>

**Design Backup:** Refer to the crash test report located on the web site above.

**Construction Considerations:** Contact Bridge Section for questions regarding the fabrication and installation of the Bridge Rail Thrie Beam Transition.

**M&O Considerations:** None