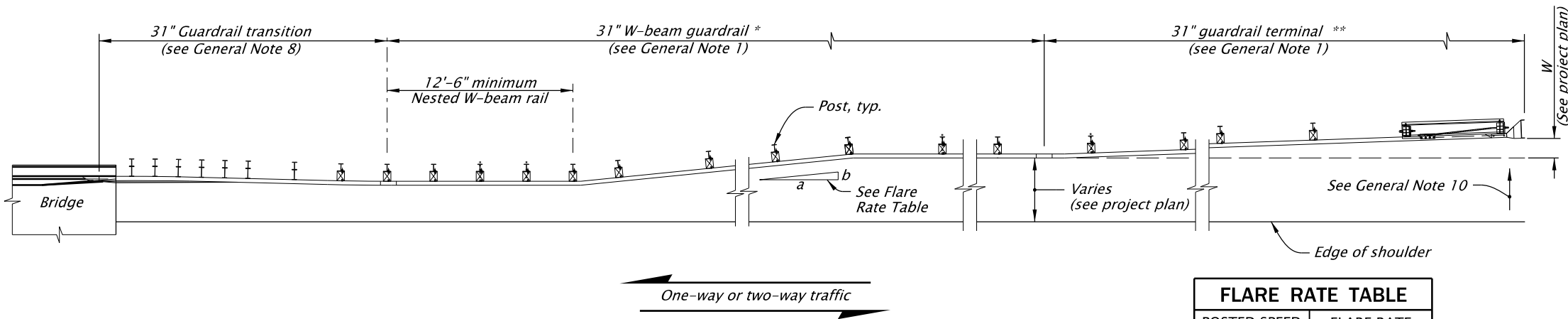


31" GUARDRAIL PLACEMENT AT BRIDGE ENDS
(Minimum Shown)

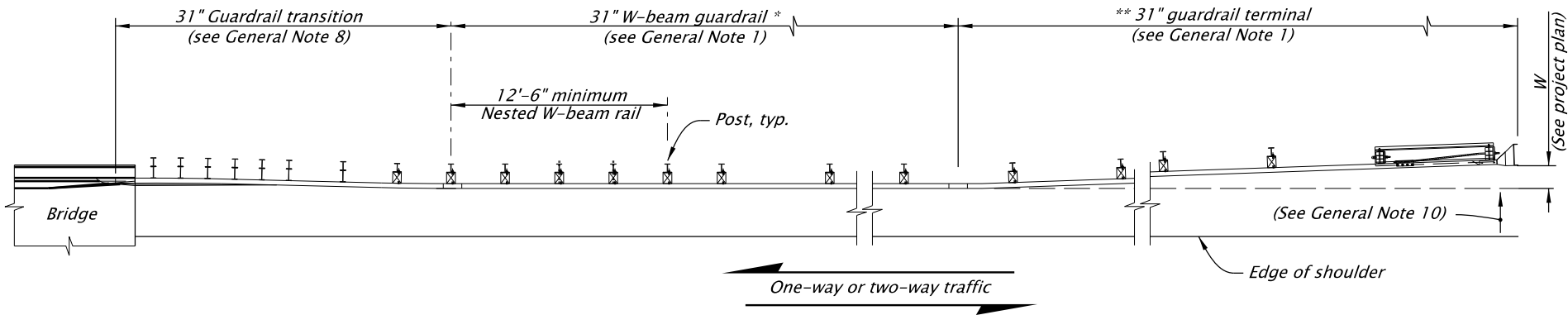


* Length of need calculation will determine quantity of 31" W-beam required.

** Provide from ODOT's QPL. Install according to manufacturer's instructions.

NARROW BRIDGE ON ONE-WAY OR TWO-WAY TRAFFIC

FLARE RATE TABLE	
POSTED SPEED (MPH)	FLARE RATE a:b
70	15 : 1 or Flatter
60	14 : 1 or Flatter
55	12 : 1 or Flatter
50	11 : 1 or Flatter
45	10 : 1 or Flatter
40 or less	9 : 1 or Flatter



ONE-WAY OR TWO-WAY TRAFFIC

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

- See appropriate standard drawing(s) for details not shown.
- Guardrail at indicated positions is required for protection at bridge ends. Additional guardrail is to be installed as required guardrail warrant and fastened to bridge.
- Face of guardrail at locations shown above must match face of bridge curb or bridge rail on structure without curb.
- Trailing ends (freeway, multilane and similar one-way facilities) outside the horizontal clearance area and not exposed to opposing traffic:
 - Guardrail terminals, use a Downstream Anchor Terminal (DAT) drawing RD438, Type B end piece and do not flare.
 - At bridge ends, omit transition guardrail and Type 3 guardrail. Use bridge connection drawing BR236 and guardrail as required in plans.
 - A minimum 25' length, three standard line posts is required.
- Rail expansion slots to be provided at bridge end connections. See drawing RD412 "MIDWEST GUARDRAIL SYSTEM INSTALLATION AT BRIDGE DECK EXPANSION JOINT" details and notes.
- Where bridges employ guardrail in lieu of handrail or vehicular barriers, adjacent connecting guardrail runs shall be the same type.
- All bolts except adjustment bolts shall be drawn tight on rails and components on initial installation.
 - Final tightness check on rail and component bolts and retightening as required to be done 30 days after initial installation.
- Transition length and post spacing will vary depending on the transition type. See project plans for guardrail transition type and connection to bridge ends.
- W' distance is measured from face of guardrail at end post, exclusive of end piece.
- The slope from the edge of the shoulder into the face of the guardrail should not be steeper than 1V : 10H. Paving of widened shoulder to face of posts in both ends of guardrail runs is required.
- Wood or steel post. Steel post shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS			
MIDWEST GUARDRAIL SYSTEM PLACEMENT AT BRIDGE ENDS SHEET 1 OF 2			
2024			
DATE	REVISION DESCRIPTION		
12-2021	REVISED NOTES		
12-2023	REVISED DETAILS AND NOTES		
09-2025	REVISED DETAILS, RENUMBERED DRAWING FROM RD442		
CALC. BOOK NO.	N/A	SDR DATE	13-JAN-2026
			RD442A