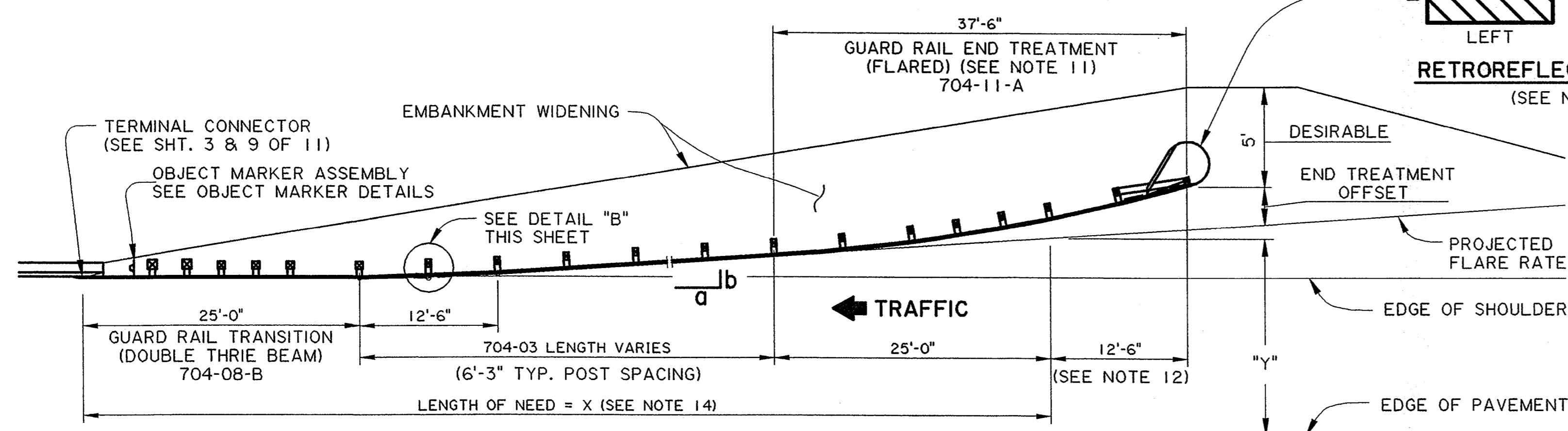
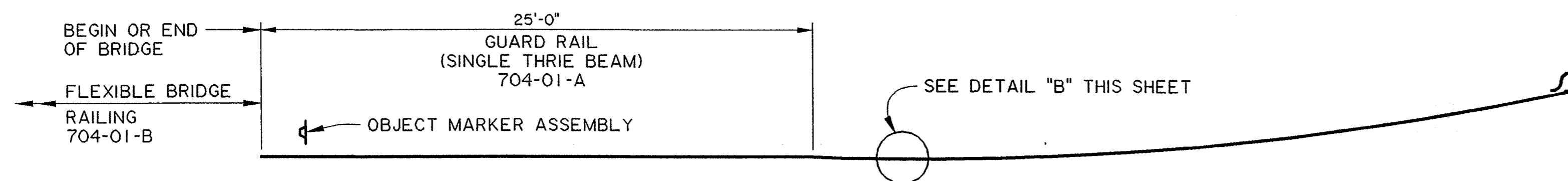


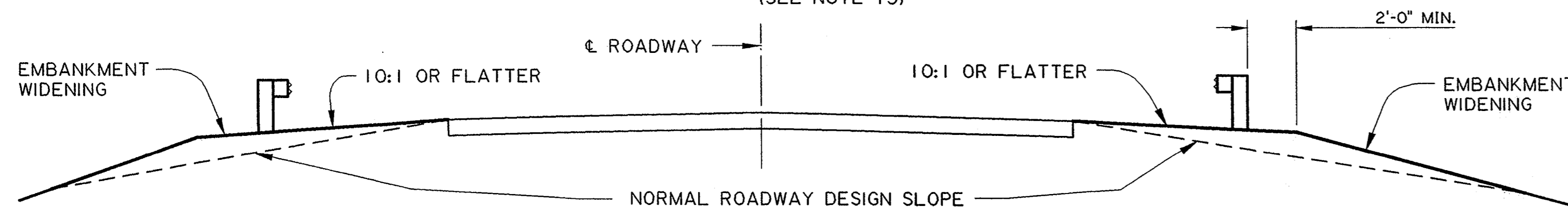
**APPROACH GUARD RAIL VARIABLES**



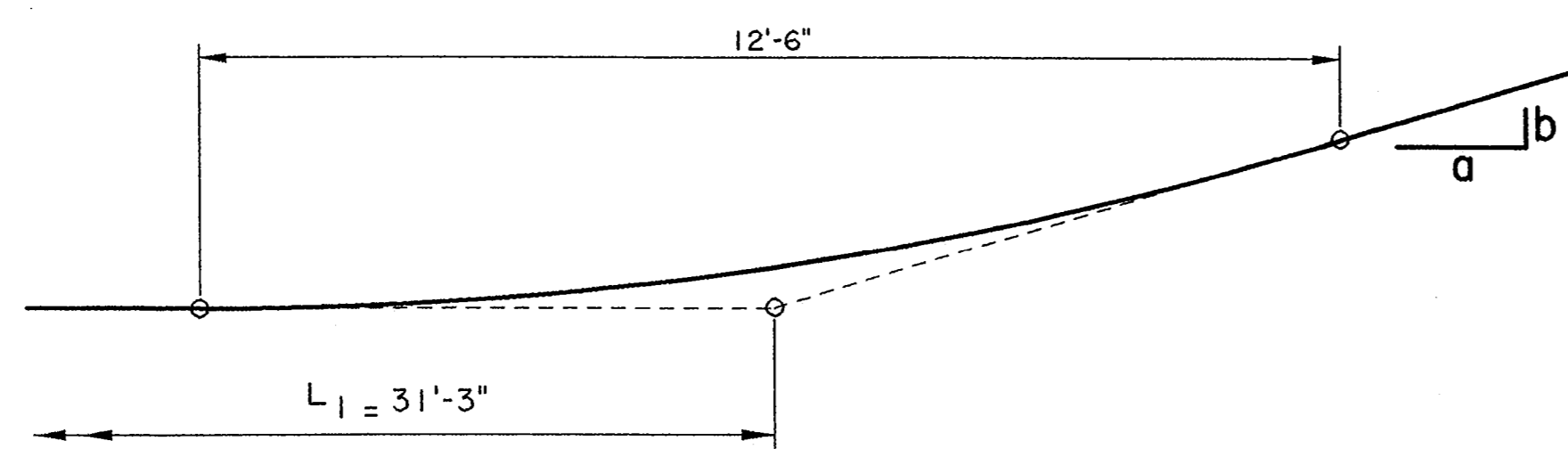
**TYPICAL BRIDGE GUARD RAIL TREATMENT**



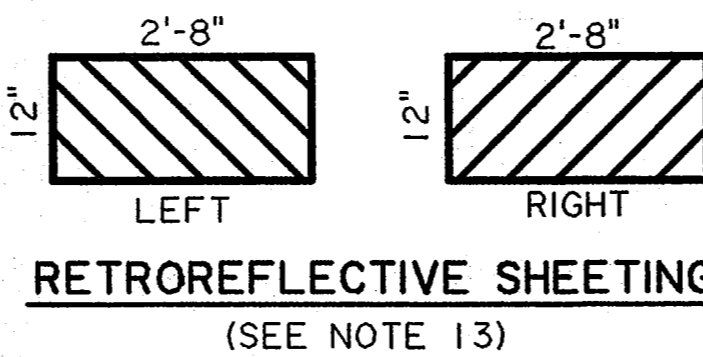
**BEAM TRANSITION FOR FLEXIBLE BRIDGE RAILING**



**TYPICAL EMBANKMENT WIDENING**



**DETAIL "B"**



**GUARD RAIL ITEMS**

704-01-A	GUARD RAIL (SINGLE THRIE BEAM) (3'-1 1/2" POST SPA.)
704-01-B	GUARD RAIL (SINGLE THRIE BEAM) (6'-3" POST SPA.)
704-01-C	GUARD RAIL (DOUBLE THRIE BEAM) (3'-1 1/2" POST SPA.)
704-01-D	GUARD RAIL (DOUBLE THRIE BEAM) (6'-3" POST SPA.)
704-03	BLOCKED OUT GUARD RAIL
704-05	GUARD RAIL ANCHOR SECTIONS (BCT)
704-06	GUARD RAIL ANCHOR SECTIONS (TRAILING END)
704-06-A	GUARDRAIL ANCHOR SECTIONS (TRAILING END) (SINGLE THRIE BEAM)
704-07-A	GUARD RAIL BRIDGE ATTACHMENTS (SINGLE THRIE BEAM)
704-08-B	GUARD RAIL TRANSITIONS (DOUBLE THRIE BEAM)
704-11-A	GUARD RAIL END TREATMENT (FLARED)
704-11-B	GUARD RAIL END TREATMENT (TANGENT)
704-11-C	GUARD RAIL END TREATMENT (BI-DIRECTIONAL)
S-ITEM	PIER PROTECTION SYSTEM
S-ITEM	SPECIAL ANCHOR SECTION

**GENERAL NOTES**

1. LENGTH OF NEED (X) AND OFFSETS "Y" & "Z" SHALL BE COMPUTED IN ACCORDANCE WITH THE EQUATION ON SHEETS 2 OF 9. (X) DIMENSIONS TO BE USED SHALL BE A MULTIPLE OF 6'-3". TO FIND THE REQUIRED LENGTH OF NEED (X) WHEN OFFSET "Y" HAS TO BE SET, USE THE EQUATION  $X = (LH - "Y") LR / LH$ .
2. MINIMUM LENGTH OF GUARD RAIL IN ANY CASE SHALL BE 75'-0" (LENGTH OF NEED  $X = 62'-6"$ ). THE SUM OF THE TRANSITION LENGTH AND THE LENGTH OF THE END TREATMENT. FOR END TREATMENT SYSTEMS LESS THAN 50'-0", THE REMAINING LENGTH TO MEET THE 75'-0" MIN. WILL BE BASED ON USING ADDITIONAL W-BEAM BLOCKED OUT GUARD RAIL 704-03 PLACED BETWEEN THE TRANSITION AND END TREATMENT. THE COST OF ADDITIONAL W-BEAM GUARD RAIL SHALL BE PAID FOR UNDER THE END TREATMENT PAY ITEM.
3. SEE TYPICAL INSTALLATION ELSEWHERE IN THESE PLANS.
4. EMBANKMENT WIDENING TO PROVIDE SLOPES NOT STEEPER THAN 10:1 IS REQUIRED TO MAINTAIN PROPER RAIL TO VEHICLES POSITION. WIDENING MAY BE ACCOMPLISHED AS DETERMINED BY THE DESIGNER OR THE PROJECT ENGINEER.
5. SEE OPPOSING TRAFFIC GUARD RAIL REQUIREMENTS ON SHEET 2 OF 9 FOR METHOD OF CALCULATING LENGTH AND OFFSET OF RAIL LEFT SIDE WHEN TRAFFIC IS TWO WAY.
6. PAY ITEMS FOR ALL GUARD RAIL COMPONENTS ARE TO BE IN ACCORDANCE WITH LAYOUT DETAILS AND/OR QUANTITY TABLES FURNISHED WITH PROJECT PLANS. GUARD RAIL PAY ITEMS SHALL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO COMPLETE THE GUARD RAIL INSTALLATION AS SHOWN ON THE PLANS.
7. LONGITUDINAL DIMENSIONS FOR GUARD RAIL ARE MEASURED ALONG THE FACE OF RAILING
8. STRAIGHT RAIL SECTION MAY BE USED FOR ALL RADII OF 125 FEET OR GREATER. FOR RADII LESS THAN 125 FEET, THE RAIL MUST BE FABRICATED TO FIT.
9. THE QUANTITY FOR THE EMBANKMENT WIDENING AT BRIDGE ENDS IS INCLUDED IN THE EMBANKMENT QUANTITY OF THE ROADWAY.
10. FOR BRIDGES IN URBAN AREAS WITH DESIGN SPEED OF 45 mph OR LESS, SEE EDMS NO. II.3.1.4
11. FOR GUARDRAIL IN TANGENT SECTION (FLARE RATES OF 50:1 OR LESS) A TANGENT END TREATMENT SHALL BE UTILIZED AND PAID FOR UNDER ITEM GUARD RAIL END TREATMENT (TANGENT) 704-11-B
12. THE POINT WITHIN THE GUARD RAIL END TREATMENT WHERE LENGTH OF NEED TERMINATES MAY VARY WITH EACH TYPE OF GUARD RAIL END TREATMENT. THE 12'-6" LENGTH APPLIES TO MOST END TREATMENTS. HOWEVER, REGARDLESS OF THE TYPE OF END TREATMENT USED, THIS POINT SHALL BE LOCATED AT THE SAME STATION ON THE ROADWAY.
13. THE RETROREFLECTIVE ADHESIVE SHEETING (12" X 2'-8") (TYPE III HIGH INTENSITY OBJECT MARKER PATTERN) SHALL BE APPLIED TO NOSE AFTER CURVING. SEE SECTION 1015 OF THE LATEST LA. STD. SPECS. FOR ROADS AND BRIDGES FOR SPECIFICATIONS AND THE SHEETING MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION. (NO DIRECT PAY). FOR PATTERN DETAIL, SEE OBJECT MARKER DETAILS.
14. UNLESS OTHERWISE SHOWN, ALL GUARD RAIL COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF THE AASHTO-AGC-ARTBA JOINT COOPERATIVE COMMITTEE, "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE", CURRENT EDITION.
15. 704-01-A IS USED IN LIEU OF 704-08-A FOR BRIDGES WITH FLEXIBLE BRIDGE RAILING (REINFORCED CONCRETE BRIDGE RAILING IS CONSIDERED TO BE RIGID.) THE 25 FEET GUARD RAIL SECTION MAY BE ELIMINATED IF THE ROADWAY CONDITIONS SUCH AS INTERSECTIONS NEAR THE BRIDGE ENDS DO NOT ALLOW THE INSTALLATION OF A FULL LENGTH GUARD RAIL.

SHEET NUMBER		PARISH		DESIGNED		DATE	
		FEDERAL PROJECT		CHECKED		MAY, 2001	
		STATE PROJECT		DRAWN		1 OF 9	
		MAGEE		P. FOSSIER			
		REVISION DESCRIPTION		APPROVED		DATE	
		Original Signed by Chief Engineer		DATE			
		HIGHWAY GUARD RAILS		BRIDGE APPLICATION		STANDARD PLAN	
		BRIDGE AND STRUCTURAL DESIGN				GR-200	