



FED. ROAD NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	ARK.				
2-6-70	547-2-6-70	7-15-88	502-1-16-83		
9-15-78	324-1-10-84	11-2-90	11-5-90		
JOB NO. STD. RAIL TX. A 14932A					

### GENERAL NOTES

Metal railing including posts and fasteners shall be paid for at the unit price bid for Metal Bridge Railing (Type A). This railing system is for installation on parapet walls only. For details of parapet walls, see span drawings. Parapet walls will be paid for at unit prices bid for concrete and reinforcing steel.

Railing components may be either aluminum or steel. Stainless steel fasteners may be used on either aluminum or steel systems. Other than the exceptions noted herein and in the Material Data, no mixing of aluminum and steel parts is permitted. For lists of material designations & specifications of various parts, see Material Data.

Uniform section steel or aluminum tubing or pipe of equivalent strength and wall thickness with approved fasteners may be submitted for approval. Toggle bolt fasteners 1/2" dia. with 1/2" toggle pin may be used to attach uniform sections to posts.

Rail tubes, pipes or extrusions must be fabricated to attach to at least three posts. Shop drawings of railing shall be submitted and approval secured before fabrication is begun.

Steel rail members shall be galvanized in accordance with ASTM A123 after fabrication. Steel fasteners other than stainless steel shall be galvanized according to ASTM 153, or B695 Class 40 or 50. SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, Edition 4) of 1991, with applicable Special Provisions and Supplemental Specifications.

### MATERIAL DATA

PART	ALUMINUM		STEEL	
	Alloy	Specification	Grade	Specification
TUBING	6061-T6	ASTM B221		ASTM A36 ASTM A501
PIPE	6061-T6	ASTM B241	B	ASTM A36 ASTM A501
EXTRUSIONS	6061-T6	ASTM B221		
RAILING END CAPS	356-F	ASTM B26	70-40	ASTM A27
CAST RAIL POSTS	A444-T4	ASTM B108	70-40	ASTM A27
ANCHOR BOLTS & RAIL CLAMP SCREWS	Same as for Steel Railing		B8 ±	ASTM A193
WASHERS	Same as for Steel Railing		B8 ±	ASTM A320
* NUTS	Same as for Steel Railing		B	ASTM A194
TOGGLE BOLT ASSEMBLY	The entire assembly shall be capable of withstanding a tensile load of 9000 pounds applied through a 1" hole. The materials for components will be specified by recognized ASTM designations on shop drawings submitted for approval, and will be accepted by manufacturer's certification on approval by the engineer.			

\* Threads on bolts, screws and nuts shall conform to American Standard coarse Series, Class 2A for screws, Class 2B for nuts, Fit ASA B11.  
± Minimum yield strength - 80,000 psi

### DETAILS OF METAL BRIDGE RAILING TYPE A

ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: J.S. DATE: 2-3-68  
TRACED BY: DATE: 3-2-80  
CHECKED BY: J.E.M. DATE: 3-2-80  
BRIDGE NO. DRAWING NO. 14992A

L. J. Carlson  
BRIDGE ENGINEER